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LEGISLATIVE DOCUMENTS

SUBMITTED TO THE

Twenty-seventh
General Assembly

OF THE

STATE OF IOWA,

Which Convened at Des Moines, January 10, 1898.

LESLIE M. SHAW,	-	Governor
J. C. MILLIMAN,	-	Lieutenant-Governor and President of the Senate
G. L. DOBSON,	-	Secretary of State
C. G. McCARTHY,	-	Auditor of State
JOHN HERRIOTT,	-	Treasurer of State
R. C. BARRETT,	-	Superintendent of Public Instruction
MILTON REMLEY,	-	Attorney-General
J. H. FUNK,	-	Speaker of the House of Representatives

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Governor's Inaugural Address.
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Treasurer of State—Biennial Report.
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TWELFTH BIENNIAL REPORT

OF THE

FISH COMMISSION

OF THE

STATE OF IOWA.

1896 - 1897.

GEO. E. DELAVAN, COMMISSIONER.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.

REPORT.

To His Excellency, F. M. Drake, Governor of Iowa:

DEAR SIR—I have the honor to submit herewith the twelfth biennial report of the Iowa Fish Commission for the years 1896-7.

The work of this commission has been attended with signal success in enforcement of law and restocking of the public and private waters of the state. Many ponds, reservoirs and artificial lakes have been constructed and a draught for fish for stocking purposes has been made on this commission that was never before equaled. Especially was this the case last spring when continued rains quite generally filled ponds and lakes that had dried up during the drouth, causing the destruction of thousands of fish that the owners desired to have replaced immediately. Owing to the unusual demands for fish the commission has not been able to fill all the applications made. That fish culture in Iowa is increasing is proven by the many orders for fish received.

SENTIMENT IN FAVOR OF THE LAW.

It is with pleasure that we note an increasing sentiment in favor of our fish and game laws. In a certain community where, a few years ago, an officer's life would have been placed in jeopardy upon making an arrest, I recently arrested and convicted several poachers, and to my surprise the business men of the city approved of the proceedings and remarked that they hoped the good work would be continued until every poacher was driven out of business, that our streams might be filled as they once were with food fish for all. What is true of this locality is also true in many others.

A GOOD LAW.

A very commendable law passed by the Twenty-sixth General Assembly was the one providing for the abolishment of the

winter fish house. This has resulted in much good, as winter fishing, without the spears, snares, and grab hooks usually hidden about these houses, has been reduced to the minimum. The newly revised fish and game law, going into effect the 1st of October, 1897, meets with the approval of all honest sportsmen, while the unscrupulous poacher sees in its wise restrictions less opportunity for despoiling and depleting. While the penalties for infractions are severe, they are no more so than they should be if the state's valuable fish and game interests are to be preserved for any length of time.

ARRESTS AND CONVICTIONS.

Since my last report I have caused the arrest and conviction of between five and six hundred poachers, whose fines amounted to \$6,458. As these fines are converted to the school funds in the localities where the prosecutions occurred, it will be seen at once that the educational interests there have received quite a marked impetus. I beg to call your attention to the fact that the above amount is larger by \$158 than the entire appropriation by the legislature for the fish commission for the biennial period. Under the new law I hope for still better results, as convictions will not be so difficult, and the appointment of deputies authorized by the legislature will be of valuable assistance.

DEPUTIES SHOULD RECEIVE PAY.

The principal hindrance in securing good men to act as county wardens is the question of pay. While the law authorizes the appointment of these deputies by the fish and game warden, no provision is made for their compensation save the small amounts they can secure as informants. These men should receive reasonable pay for the time and labor given the state.

COMPARATIVE APPROPRIATIONS.

By way of comparison I desire to call your attention to the appropriations made by other states for their fish and game interests, giving the area of square miles in each instance:

Iowa, 55,475 square miles, appropriation \$6,000 for the biennial period.

Michigan, 58,915 square miles, appropriates \$27,483 for fish alone. A salaried game warden with ten deputies is employed and several thousand dollars are paid annually to county wardens.

THE QUILL-BACK (*Icthyobus nels/er.*)

THE OROPPLE (*Pomoxis annularis*).

Maine, with only 33,040 square miles, appropriates \$25,000, and the fish commission says the amount is not enough to meet the increasing demands.

Massachusetts, area 8,315 square miles, appropriates \$14,000 annually..

New Hampshire, area 9,305 square miles. Appropriation unlimited, bills approved by the governor.

Connecticut, with only 4,990 square miles (less than one eleventh the area of Iowa), appropriates \$9,000 for fish culture, and gives her counties power to appoint and pay game wardens.

New York, area 49,170 square miles (6,305 less than Iowa), appropriates \$157,000 for fish and game interests.

Minnesota, area 79,205 square miles, appropriates \$30,000.

Pennsylvania, area 45,212 square miles, gives \$40,000.

Illinois, area 56,000 square miles, gives \$10,000 for the propagation of fish.

Colorado, area 103,645 square miles, appropriates \$21,000 for fish culture.

California, area 155,980 square miles, gives her fish commission \$17,500.

Missouri, area 68,735 square miles, with only six lakes, appropriates \$15,000.

Nebraska, area 76,183 square miles (with only eleven lakes while Iowa has eighty-seven), appropriates \$9,950 for fish culture. Six of Nebraska's lakes are in one county.

Vermont, with an area of only 9,136 square miles and ten lakes, appropriates \$9,500.

Wisconsin, our neighbor on the east with an area of 54,450 square miles (1,025 less than Iowa) appropriates \$24,800.

The other states are making liberal appropriations for the maintenance of their fish and game interests, and it is to be regretted that Iowa, the banner state in a great many other respects, should in this important one occupy a place at the foot of the column. In concluding this topic we desire to add that only a few of the states above referred to, with large appropriations, have more favorable conditions for the propagation of fish than Iowa. The people of these states appreciate the value of these interests as a source of food supply to such a degree that their legislatures are gradually increasing their appropriations. The value of the products is estimated by the amount appropriated. As an evidence how these interests are appreciated in Wisconsin, we quote from a letter in which the commissioner of fisheries of that state says:

We have an annual appropriation of \$12,000; then, if we want funds for any extra work or for permanent improvements, we ask for them. During the session of 1890, we asked for \$5,000 for a new building, and there were only seven votes against it. During the last session, we asked for \$5,000 for a fish car, and the vote was unanimous. Eighteen hundred dollars per year is also voted for the fish and game warden and his expenses. There is also a contingent fund of \$1,500 to pay special deputy wardens. The total expenditures for fish culture and fish and game protection will average about \$21,000 annually. The fish commission will ask for a special appropriation of \$10,000 this winter.

FISHWAY CASE IN THE SUPREME COURT.

Last year a suit was brought against William Beardsley, of Oskaloosa, in the district court of Makaska county, Hon. A. R. Dewey, Judge, to compel Beardsley to provide his dam across the Skunk river with a fishway. The statute under which this case was brought is found in McClain's code, sections 2316 and 2317, which read as follows:

SECTION 2316. That the owner or owners of any dam or obstruction across any river or stream, creek, pond, lake, or water course, in this state, shall, within a reasonable time, erect, construct, and maintain over or across said dam or obstruction, a suitable fishway of suitable capacity and facility to afford a free passage for fish up and down through such water course when the water of said stream is running over the said dam.

SEC. 2317. Any dam or obstruction mentioned in section 1 of this act, not provided with such fishway within a reasonable time after the taking effect of this act, is hereby declared a nuisance and may be abated accordingly.

The court found for the defendant, and as the case is a very important one, embracing, as it does, the entire fishing interests of thousands of miles of valuable water of the state that should be open for the propagation of fish, I appealed the case to the supreme court. This suit is one that not only interests every mill-owner in the state, but every lover of fish as well. We believe that the higher court will decide in this case, as has been done in similar cases in other states, that the thousands of people residing along Iowa's streams should not, by the act of a few individuals, be deprived of this most valuable article of food. As has been said, "the owners of the land along which these streams flow have the burden of the rivers upon them; they run over their soil, overflow their lands, and create a large burden, and all the advantages of the streams for food supply for the inhabitants along their banks is cut off by a few citizens erecting dams near the mouths of the streams." It is plainly an infringement upon the rights of others that should be abated,

COMMON SUCKER (*Calostomus*).

THE RAINBOW BUNFISH (*Centropomus undecimalis*).

and we think will be as soon as the case comes before the supreme court. This is the first fishway case to be taken to the higher court in Iowa, and its outcome will be eagerly looked for.

OKOBOJI DAM.

By an act of the Twenty-sixth General Assembly, declaring the Okoboji lakes to be public navigable waters, the fish commissioner was authorized to build a dam at the outlet of East Okoboji for the purpose of preventing the escape of water from both lakes. There are two flouring mills located at Milford, below the dam. The proprietors of one of these mills secured a temporary injunction from Judge Lot Thomas, stopping the work when the dam was about half completed. The hearing on the injunction came before Judge Wm. B. Quarton at Algona, where able counsel for the state succeeded in securing a dissolution of the injunction, when the work on the dam was speedily pushed to completion. The dam has retained at least two to two and a half feet more water in the Okobojs this season than there otherwise would have been. It seems, however, that litigation over the dam is not yet at an end. The owner of the second mill at Milford has commenced another suit against the state for the removal of the obstruction. The case comes on for trial at the next term of the district court in Dickinson county. The dam is 279 feet long, about five feet high and five feet wide. Sixty feet in the center is built of stone and cement, and the wing on each end of earth and stone. Above and below the cement wall large stones, in generous quantities, have been placed to break the force of the water. The dam will never go out if malicious hands do not interfere with it.

CANAL BETWEEN SPIRIT AND LITTLE SPIRIT LAKES.

Combined in the act of the legislature, authorizing the erection of the dam, was one directing the fish commissioner to build a passageway between Spirit and Little Spirit lakes that the fish in the larger lake might pass into the smaller one at the spawning season to deposit their product in the moss and weeds in safety. This work has been done, and the result has not only been beneficial in allowing the large fish to use the smaller lake as a spawning-bed, but millions of young game fish have thus been afforded an opportunity to get into the larger lake by way of the canal, which is about 500 feet long, from six to thirteen feet deep, and from six or seven feet wide at the bottom to twenty at the top. The canal having been dug under a

public highway it was necessary for the state to build a bridge over the same, which was done in a substantial manner. The expense of building the dam, the canal, and the bridge, was kept within the appropriation of \$1,000.

COURT EXPENSES.

The expenses of the first suit brought against the state for the removal of the dam were paid from the amount appropriated for the fish commission, which were about \$200. At that time there were no other funds available. Arrangements have since been made with the executive council whereby the attorney-general will have charge of the case now pending.

CAR PURCHASED.

Ever since the creation of the Iowa fish commission efforts have been made by each succeeding commissioner to secure a special appropriation of five or six thousand dollars for the purpose of purchasing a car in which, not only to ship the product of the Spirit Lake hatchery, but for the transporting of millions of young fish from the bayous of the Mississippi river to the inland waters of the state. Sufficient pressure could not be brought to bear on the legislature to accomplish the end desired. Deeming such a car very essential to the work of the commission in supplying food fish for the people, your commissioner has labored arduously to procure one, and it is with no small amount of pride that we are able to report that the state of Iowa now owns as good a fish-car as any of her neighbor states, and the payment therefor comes from the amount appropriated for this commission—not one dollar being asked for outside of the regular appropriation. A picture of the car is shown here. The car is sixty feet long, has twelve wheels, is fitted up with twenty tanks, office, berths, kitchen, closets, etc. The purchase was made from D. W. Walker, excursion agent of the Chicago, Milwaukee & St. Paul Railway company. The entire cost of the car, including all equipments since added, was \$1,600. The Chicago, Milwaukee & St. Paul, Burlington, Cedar Rapids & Northern, Illinois Central, and Chicago Great Western Railway companies have very generously consented to move the car over their many lines in the state free of cost to the commission. The commissioner has made fourteen trips with the car so far this fall, and successfully transported 1,635,000 fish from the Mississippi bayous to the interior rivers and lakes of the state.

STRAWBERRY OR CALICO BASS (*Pomoxis spargus*).

SUPPLY POND.

It being necessary to have a supply pond at some point on the Mississippi where the young fish taken by the commission from the bayous and sloughs could be kept while awaiting shipment, one was located at Sabula, where the city council went to the expense of purchasing a suitable lot adjacent to the depot and supplying the pond with water, free of cost, from the city water works. The state has generously been given a lease of the lot, free of charge, and can hold the same as long as the lot is used for the purpose designed. The pond is 100 feet by 30.

THE NEW GAME LAW.

The new fish and game law provides for the appointment of deputies by the fish and game warden. It is doubtful whether these deputies will be willing to serve in this capacity free of expense to the state, and incur the enmity of the poachers in their respective localities. Not only does this measure of necessity call for an increased appropriation, but the doubling of the work of the commission by adding to it the greatly enlarged duties laid upon it under the new law will, it is scarcely necessary to suggest, require additional means for the proper and effective carrying out of the intention of the legislature.

THE SLOUGHS AND BAYOUS OF ALL THE STATE'S BOUNDARY RIVERS COME WITHIN THE JURISDICTION OF THE IOWA FISH LAW.

By a decision of the Iowa supreme court, in October, 1895, all the sloughs and bayous on the Iowa shores of the Mississippi, Missouri, Big Sioux and Des Moines rivers, come within the jurisdiction of the Iowa fish laws. This important case being decided at the time the last report of this commission was in the hands of the printer, allusion to it could not be made. It is now published in the interest of all the people, but more especially for the benefit of those residing in the cities and towns located on these rivers, and from such localities the commission has received numerous requests for copies of the same. It reads as follows:

STATE V. HAUG.

(Supreme Court of Iowa. Oct. 3, 1895.)

ILLEGAL FISHING—EXCEPTED WATERS.

In acts Twenty-third General Assembly, chapter 34, prohibiting the taking of fish by certain methods from "any of the waters of the state," provided that "nothing herein contained shall be held to apply to fishing in

the Mississippi, the Missouri, or the Big Sioux rivers, nor so much of the Des Moines river as forms the boundary between the states of Missouri and Iowa," the Mississippi river includes only the water popularly so known, constituting the boundary of the state, and does not include a lake wholly within the state, and constituting no part of the Mississippi, for purposes of navigation or boundary, but being merely connected with it, and in every other respect being as distinct a body of water as any in the interior of the state.

Appeal from district court, Allamakee county, W. A. Hoyt, Judge.

The defendant was charged with unlawfully seining fish. He was tried before the mayor of the city of Lansing and convicted. He appealed to the district court of Allamakee county. In said court he was found not guilty. The state appeals. Reversed.

Milton Remley, Attorney-General, E. M. Woodward, County Attorney, J. H. Trewin, and J. P. Conway, for the State; Park & Odell for Appellee.

KINNE, J.—I. It is not disputed that the defendant in December, 1893, caught several thousand pounds of fish—sunfish, pike, bass and pickerel—with a seine about 400 feet long, which was drawn under the ice in Big lake, in Allamakee county. For this act he was arrested and brought before the mayor of the city of Lansing, on information filed by the fish commissioner of the state, charging the defendant with illegally seining fish, contrary to the laws of this state. He was convicted and appealed to the district court. There was a jury trial, and at the close of the evidence the court directed a verdict for the defendant, from which this appeal is prosecuted.

II. There are a number of assignments of error in this case growing out of the rulings of the court upon the introduction of testimony, the refusal to give instructions asked by the state, the action of the court in directing a verdict for the defendant, and in other respects. Nearly all of these, however, in one way or another, relate to, and all are dependent on, the solution of the real question in controversy, viz., whether or not Big Lake is a part of the Mississippi river, within the meaning of the statute which exempts the waters of said river from the operation of the laws of this state prohibiting the seining of fish. To this question only shall we direct our attention.

The statute upon which the information against the defendant is based is found in the acts of the Twenty-third General Assembly (chapter 34), and is entitled "An act for the protection and preservation of fish," etc. It is provided by section 2 of the chapter that "It shall be unlawful for any person to take from any of the waters of the state any fish in any manner except by hook and line; except that it shall be lawful for any person to take minnows for bait with a seine that does not exceed five yards in length. Also that it shall be lawful to take buffalo and suckers by spearing between the first day of November and the first day of March following. * * *" Section 6, under which the information was drawn, reads: "No person shall place, erect, or cause to be placed or erected, in or across any of the rivers, creeks, lakes, or ponds or any outlets or inlets thereto any trot line, seine, net, weir, trap, dam or other obstruction in such manner as to hinder or obstruct the free passage of fish up, down, or through such water course for the purpose of taking or catching fish unless the same be done under

THE SMALL-YOUTH BLACK BASS (*Micropterus dolomieu*).

YELLOW PERCH (*Perca flavescens*).

the supervision of the fish commissioner, except minnows as provided in section 2 of this act." Section 7 of the act prohibits the placing of drugs, dynamite, powder, etc. "in any of the waters of the state," for the purpose of destroying or catching fish. In section 8 it is provided that any person found guilty of violating sections 6 or 7 of the act shall, upon conviction, be fined not less than \$25 nor more than \$100, and stand committed until such fine is paid. Section 11 of the act provides that "nothing herein contained shall be held to apply to fishing in the Mississippi, the Missouri, or the Big Sioux rivers, nor so much of the Des Moines river as forms the boundary between the states of Missouri and Iowa." Defendant relies upon the provision of the section last quoted, and claims that Big Lake constitutes a part of the Mississippi river which is exempted from the operation of the act. It is not questioned that, if Big Lake is not a part of the Mississippi river within the meaning of the act, then the defendant is guilty of having violated the law.

The plat above will aid in understanding the situation of Big Lake and its connection with the main channel of the Mississippi river. Big Lake is about a mile and a half long, and three-quarters of a mile wide. It rests in a shallow basin or depression, and has sloping banks. While there is a conflict in the testimony as to whether or not there is a current in this lake, we think the weight of the evidence is to the effect that at an ordinary stage of water there is no current. It appears that the water is clearer than that in the Mississippi river. The lake is from four to six feet deep. At an ordinary stage of water in the lake, the water in the outlet is about two feet deep and from ten to twenty feet wide. The testimony tends to show that for two years prior to the trial of this case in the court below, viz., in 1892 and 1893, there had been no water running into this lake, though when the water is high there is a water connection at the north end of the lake. There are several sloughs between the lake and the main shore on the Iowa side, west of the lake. From the hills on the Iowa side of the river to the lake it is a mile and a half. The land lying east of Big lake, and between it and the main channel of the river, is used for grazing and hay land, and on it are trees ranging in size from an inch or two in diameter up to three or four feet. It is admitted that Big Lake and the slough lying west of it have not been used for purposes of navigation. Big Lake, then, is a body of water having well defined shores and no current. It is from a quarter to a half a mile west of the main channel of the Mississippi river at the nearest point. It appears that there are times when the high water overflows all, or nearly all, of the land between the mainland on each side of the river. From the evidence it is clear that Big Lake is not a part of the Mississippi river, so far as navigation is concerned. It is not disputed that it lies wholly within the state of Iowa. It follows, then, that Big Lake, lying as it does wholly within the state of Iowa, does not constitute a part of the Mississippi river for boundary purposes. *Dunleith & D. Bridge Co v. County of Dubuque*, 55 Iowa, 558, 8 N. W., 443; *Buttenuth v. Bridge Co.*, 123 Ill. 535, 17 N. E. 439; *State of Iowa v. State of Illinois*, 147 U. S. 1, 13 Sup. Ct. 239. We think it is quite clear that the intention of the law was to prohibit seining within water wholly within this state. Section 2 of the act referred to uses the words, "from any of the waters of the state." In section 3 the words used are, "from any of the waters of the

state." In section 7 the same words are used. These words very definitely cover all waters lying wholly within this state, and there can be no doubt they include Big Lake, unless it is exempted from their operation by virtue of the provision of section 11 of the act. Now, it is apparent that section 11 excepts from the operation of the act only the boundary waters of the state, over which the state has not exclusive jurisdiction. There is nothing in the section which suggests that it was the intent of the legislature to exempt from the operation of the act waters which lie entirely within our own state. Big Lake being wholly within the state, we can discover no reason for saying that it was not the intention of the legislature that the provision of the act prohibiting seining in "any of the waters of the state" should not apply to it, the same as to any other body of water entirely within the state. We think that the Mississippi river, which is excluded from the provision of the act, includes only that body or stream of water which is popularly known as such river; that the wording of section 11 of the act indicates that it was the Mississippi river which constitutes the boundary line of the state, which the legislature had in mind.

Again, we may look to the evil sought to be remedied by this legislation. The purpose was to prevent the wanton and unnecessary destruction of fish in the waters over which the state has exclusive jurisdiction; to preserve the fish in said waters for the use of the people of the state. If it be true that these lakes and streams, which, though connected with the main body of water known as the Mississippi river, yet form no part of the river proper, are not waters in which seining is prohibited, then the legislation falls far short of remedying the evil which existed, and these waters of the state which, we are justified from the evidence in this case in saying, constitute the most valuable fishing grounds in the state, may be despoiled in this wholesale way of their wealth of fish without let or hindrance. To be justified in reaching such a conclusion, it should appear clearly that such waters were intended to be exempted from the operation of the law. We find nothing in the law to warrant defendant's contention. We do not deem it necessary to discuss what constitutes the middle of the main channel of the river. The "Mississippi river" spoken of in the statute is the river as usually referred to. It means that body of water which forms the eastern boundary of the state, and, from the wording of certain sections of the act, it is manifest that it was not intended to embrace within the words "Mississippi river" waters entirely within the state, though having connection with said boundary stream. Appellee relies upon the case of Dunleith & D. Bridge Co. v. County of Dubuque, *supra*. It is claimed that that case is decisive of this controversy. We do not think so. The question in that case was as to what part of plaintiff's bridge was properly assessable in Iowa. It was held that the word "channel," as used in the act of congress admitting Iowa into the union, and in our state constitution in defining our eastern boundary as the middle of the main channel of the river, referred to the bed in which the main stream of the river flowed, and not to the deep water of the stream, as followed in navigation. Big Lake is in no sense a channel of the Mississippi river, and no question is made that it is wholly within the state of Iowa. It is a part of the river in the sense only that it is connected with it, and in every other respect it is as distinct a body of water as any which may be found in the interior of the state. On

**ARTESIAN WELL AT SABULA THAT FURNISHES WATER FOR STATE
SUPPLY PONDS**

POND AT SABULA.

the one hand, the legislature prohibits seining in any of the waters of the state. On the other hand, it says, in effect, that this prohibition shall not extend to boundary waters over which the state has not exclusive jurisdiction. Such, we think, is the fair and proper construction of the law. The court below, therefore, erred in holding that Big Lake was a part of the Mississippi river and exempted from the operation of the law. The defendant having been acquitted, the only effect of this opinion will be to settle the law of the case. Reversed.

DISTRIBUTION.

SPIRIT LAKE.

Wall-eyed pike.....	50,000
Rock bass.....	10 000
Black bass.....	175,000
Silver bass.....	25,000
Perch.....	200,000
Trout.....	50,000
Crappies.....	100,000
Mixed varieties.....	300,000

OKOBOJI.

Black bass.....	175,000
Silver bass.....	30,000
Rock bass.....	5,000
Perch.....	200,000
Wall-eyed pike.....	50,000
Trout.....	50,000
Mixed varieties.....	200,000
Crappies.....	100,000

CLEAR LAKE.

Crappies.....	50,000
Perch.....	15 000
Silver bass.....	25,000
Trout.....	50,000
Pickrel.....	500
Sunfish.....	15,000
Black bass.....	50,000

BEED LAKE.

Crappies.....	5,000
Silver bass.....	5,000
Perch.....	5,000

SILVER LAKE.

Wall-eyed pike.....	5,000
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STORM LAKE.

Trout.....	50,000
Black bass, crappies, sunfish and pickrel.....	125,000

MAQUOKETA RIVER.

Black bass, crappies, sunfish and pickerel.....125,000

DES MOINES RIVER.

Mixed varieties.....250,000

CEDAR RIVER.

Wall-eyed pike.....20,000

Black bass, crappies, sunfish and pickerel.....425,000

SHELL ROCK RIVER.

Silver bass.....10,000

Black bass.....1,000

Crappies.....5,000

Perch.....10,000

IOWA RIVER.

Perch.....10,000

Crappies.....5,000

Silver bass.....5,000

TURKEY RIVER.

Black bass (U. S. Commission).....25,000

WAPSIPINICON RIVER.

Black bass, crappies, sunfish and pickerel.....187,000

BUFFALO RIVER.

Black bass, crappies, sunfish and pickerel.....63,000

CARP DISTRIBUTION.

French Whitmore.....Chariton

W. Haney.....Wellman

P. D. Hoff.....Grimes

Wm. Weyranch.....Ankeny

B. F. Roberts.....Dunlap

L B Griffin.....Clarion

Chas. Winnings .. Ida Grove

C. C. Keil.....Ladora

J. B. Bets.....Ladora

Geo. E. Morse.....Genoa Bluff

F. M. Belknap.....Anamosa

L. S. Huntley.....Chariton

D. Knotts.....Lucas

Hon. R. T. St. John.....Riceville

H. Fischer.....Pomeroy

M McDonald.....Bayard

Geo. S Beach.....Lenox

W L Van Eaton.....Riverton

Frank Van Eaton.....Riverton

S. A. Eychaner.....Newton

H. M. Helgen.....Ruthven

N. R. Clift.....Zearing

Peter Anderson.....Harlan

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STATE SUPPLY POND AT SABULA.

POND AT SABULA.

J. W. Adams.....	Riceville
William Harvey.....	Wellman
William Morshell.....	Homestead
W. H. Spurier	Lamoni
J. L. Brooks.....	Hedrick
Thomas Van Winkle.....	Hedrick
William Weyranch (second delivery).....	Ankeny
O. H. Schlapkohl	Dysart
D. Kohl.....	Radcliffe
M. D. Crow	College Springs
A. Rains.....	Silver City
W. F. Noble	Vinton
J. A. Caster.....	Leon
E. J. Caldwell.....	Coin
John Kelly.....	Creston
J. B. Parmelee.....	Iowa Falls
J. A. Neill.....	Hawarden
Ben Van Steenburg.....	Preston
D. A. Waterhouse.....	Farley
John Shephard.....	Caledonia
Peter H. Madsen	Harlan
George H. Miller	Harlan
B. W. Gregory.....	Kirkman
William Bisgrove	Clarion
J. W. Farmer.....	Montezuma
J. D. Dohrman	Mt. Vernon
August Rarde.....	Charter Oak
H. Schultz	Charter Oak
Ernest Nehmet.....	Charter Oak
Z. N. Bay	Albia
John Smith	Albia
J. G. Stafford	Chariton
J. J. Slutz	Sharon Center
C. Pugslev.....	Armstrong
J. G. Fisch	Estherville
W. F. Zachary.....	Prairie City
Henry Hogenkamp.....	Cromwell
E. H. Boody.....	Belle Plaine
F. M. Stephenson	Packwood
I. White.....	Shenandoah
John Graf.....	Lockridge
H. A. Burkholder	Woodbine
A. J. Hart	Charter Oak
James A. Noble.....	Vinton
I. H. Kuhl	Earling
A. J. Amundson.....	Roland
G. F. Maysent	Panama
S. D. Williams.....	Vinton
J. M. Hale.....	Mt. Etna
J. W. Ross.....	Ladora

W. S. Wright.....	Mt. Pleasant
C. F. Sullivan	Creston
A. A. Mason	Albia
J. S. Hulbert.....	Greenfield
Charles Boutlier.....	Britt
J. S. Hurst.....	Zearing
H. F. Fischer.....	Pomeroy
Thomas Caswell.....	Cherokee
M. Thielman.....	Holstein

GOLDFISH DISTRIBUTION.

Mrs. Ole Ammundson.....	Estherville
A. H. Fulton.....	Knoxville
W. J. Fogarty.....	Rock Rapids
Mrs. B. P. Birdsall.....	Clarion
Mrs. W. W. Reynolds.....	Sheldon
Olaf Olson	Rock Rapids
J. G. Crozier.....	Cedar Rapids
H. C. Haberlee.....	Manchester
Mrs. J. C. Perry	Onawa
James Goddard.....	Livermore
Rev. T. J. McGrath	Charles City
F. R. Conaway (second application)	Des Moines
Lon Templeton	Maquoketa
J. S. Green	Maquoketa
C. Durant Jones.....	Stanhope
John G. Legal.....	Charles City
Mrs. Lewis Fairchilds.....	Webster City
E. V. Baldwin	Hampton
Rev. Ginter.....	Spirit Lake
Ed. Raymond	Spirit Lake
A. W. McFarland	Dakota City
Mrs. Herman Graaf	Estherville
Thomas Early.....	Emmetsburg
O. Neville	Estherville
Charles R. Kirk.....	Chariton
G. H. Smyth.....	Stuart
F. H. Stoddard	Humboldt
C. C. Galloway	Marshalltown
Mrs. R. G. Tyler.....	Greene
J. D. Perry.....	Floyd
Frank Walker.....	Clarion
Hon. G. C. Heberling.....	Sabula
G. H. Norton.....	Gladbrook
A. Lart.....	Mason City Junction
Thomas Pullen.....	Estherville
F. W. Gregory.....	Iowa Falls
Bradley & Wagner.....	Rock Rapids
George E. Richardson.....	Le Mars
C. G. Houx.....	Cedar Rapids
B. E. Fraley.....	Albion

THE WALL-EYED PIKE (*Stenodotus vitreus*).

THE BROAD-EARED SUNFISH (*Lepomis pallidus*).

Belknap Brothers.....	Harris
A. W. Van Houten.....	Des Moines
F. King.....	Rolfe
L. M. Foote.....	Inwood
Olaf Johnson.....	Estherville
Grace Hodges.....	Geneva
D. Mundell.....	Independence
O. T. Lush.....	Spencer
Dr. Frisbie.....	Dows
H. C. Middlebrook.....	Rock Rapids
Royal Oaks.....	Sabula
Benjamin Bedford.....	Sabula
L. L. Esmay.....	Sabula
Royal Oaks.....	Sabula
Benjamin Bedford.....	Sabula
O. E. Woods.....	Mason City
Miss Emmerson.....	Columbus Junction
E. L. Henderson.....	West Liberty
C. B. McClun.....	West Liberty
Mrs. W. E. Smith.....	Richland
Louis E. Smith.....	Des Moines
J. White.....	Cedar Rapids
Mrs. C. K. Howe.....	Des Moines
McCarty & Linderman.....	Emmetsburg
T. M. Zink.....	Le Mars
Miss Jones.....	Fort Madison
Miss Ada Whitmore.....	Osceola
C. F. Gullxson.....	Bode
Mrs. J. S. Sinclair.....	Dows
Frank Tessar.....	Hopkinton
Charles Copley.....	Spirit Lake
E. H. Bryant.....	Mondamin
Mr. Griffen.....	Spirit Lake
Robert Miller.....	Spirit Lake
A. B. Huntly.....	Buffalo Center
W. R. Johnson.....	Cherokee
E. M. Burns.....	Mason City
Mrs. Andrew Seaverson.....	Decorah
Wm. Bisgrove.....	Clarion
Joe Joyce.....	Emmetsburg
Irvine W. Farmer.....	Montezuma
Thomas Gray.....	Wesley
L. H. Farnham.....	Akron
F. W. Bicknell.....	Des Moines
Mrs. F. H. Hinen.....	Iowa Falls
Miss Mamie Prichard.....	Harlan
Mrs. Jesse Smith.....	Laurens
John W. Farmer.....	Montezuma
A. L. Bush.....	Emmetsburg
O. L. Wilson.....	Estherville

Horace Bennett.....	Des Moines
Miss Evalyn Plummer.....	Viola
W. E. Albert.....	Lansing
R. C. Dungan.....	Valley Junction
Mrs. Frank Brownell.....	Garner
James Espesett.....	Estherville
Mrs. M. Wilson.....	Estherville
George W. Adams.....	Estherville
S. H. Welden.....	Iowa Falls
Mrs. C. F. Beard.....	Mt. Ayr
Mrs. P. Rose.....	Estherville
Conductor Mattison.....	Cedar Rapids
Florence White.....	Spencer
Alice Smith (for Soldiers' Orphans' Home).....	Davenport
C. Alt.....	Estherville
C. P. Wallace.....	Spirit Lake
D. W. Sternes.....	Mason City
Fred Phillips.....	Spirit Lake
Mrs. I. G. Gallagher.....	West Bend
Miss Abele Pratt.....	Des Moines
Senator Ellison.....	Anamosa
Belle Hailston.....	Shellsburg
Mrs. B. S. Cuplin.....	West Bend
Zola Wheeler.....	Orleans
Mary Clark.....	Orleans
Mrs. S. Weed.....	Orleans
C. A. Smith.....	Emmetsburg
E. H. Smith.....	Estherville
Orange Jones.....	Spirit Lake
Mrs. Plummer.....	Forest City
J. I. Gilman.....	Iowa Falls
Webster Grocer company.....	Webster City
G. W. Metcalf.....	Lansing
George Letchford.....	Estherville
W. W. Fonda.....	Monona
L. H. Farnham.....	Spirit Lake
Mrs. Will Lyon.....	Estherville
H. M. Wilson.....	Atlantic
A. A. Smith.....	Dows
Miss Goodwin.....	Burt
Joe D. Cotton.....	Sabula
J. E. Scott.....	Emmetsburg
J. F. Rowe.....	Emmetsburg
Hon. Thomas Lambert.....	Sabula
Mrs. B. P. Birdsall.....	Clarion
G. M. West.....	Superior
Mrs. A. A. Wicks.....	Webster City
D. E. Packard.....	Belmond
Howard Walters.....	Larchwood
A. H. Moll.....	Mason City

THE BLUE SUNFISH OR COPPER NOSE (*Lepomis paludosus*).

THE CHANNEL CATFISH (*Ictalurus punctatus*).

C. F. Jackson.....	Estherville
Parr Goodall.....	Osage
C. A. Lange.....	Decorah
A. H. Treat.....	Charles City
Chas. F. De Smith.....	Charles City
Charles R. Kirk.....	Chariton
Dr. S. K. Rice.....	Northwood
J. T. Snyder.....	Northwood
Mrs. C. B. Taylor.....	Iowa Falls
J. B. Kissell.....	Dubuque
S. Pillsbury.....	Spirit Lake
Ira Carlton.....	Spirit Lake
G. B. Pray.....	Webster City
W. S. Richards.....	Des Moines
W. Patrick.....	Des Moines
Insane Hospital.....	Independence
Mrs. C. A. Austin.....	Sumner
Hon. J. H. Trewin.....	Lansing
W. H. McKean.....	Reinbeck
C. Currie & Son.....	Mason City
T. M. Smiley.....	West Liberty
Jos. Smith.....	Spirit Lake
Mrs. T. J. Greggs.....	Orleans
W. F. Barr.....	Parkersburg
W. J. Fogarty.....	Rock Rapids
E. A. Bundy.....	Larrabee
Mrs. J. S. Mead.....	Newell
H. J. Green.....	Decorah
Junger & Myers.....	Reinbeck
W. W. Coles.....	McGregor
Hon. D. H. Palmer.....	Washington
Harry Schermer.....	Emmetsburg
H. E. Fuller.....	Milford
W. H. Rooney.....	Primghar
Geo. Shipley.....	Sheldon
H. W. Rothert.....	Council Bluffs
Phil. Sargent.....	Iowa Falls
F. C. Nafus.....	Spirit Lake
J. H. Carmichael.....	Emmetsburg
Wm. Scott.....	Emmetsburg
Carl Juiller.....	Ft. Madison
Mrs. E. T. Hobein.....	Estherville
O. T. Lush.....	Superior
Mr. Reed.....	Spirit Lake
Mr. Bickle.....	Spirit Lake
F. R. Conaway.....	Des Moines
A. B. Shaw.....	Corning
Mrs. U. B. Tracy.....	Clarion
Alice M. Means.....	Hartley
C. L. Dixon.....	Sheldon

J. H. Milhollam.....	Cedar Rapids
Mrs. E. P. Hall.....	Sheldon
Cornie Olson.....	Spirit Lake
Mary Guehler.....	Le Mars
Fred Roberts.....	Estherville
Joe D. Cotton.....	Sabula
Charley Day.....	Sabula

ESTIMATE OF FUNDS NECESSARY FOR 1897-8.

For gathering fish at Sabula for restocking the lakes and rivers of the state.....	\$ 5,000
For improvement and building necessary ponds at Sabula.....	500
Assistants' salary.....	600
For protection, distribution and reproducing fish for the next two years.....	10,000
Protection of game and payment of deputies.....	5,000

This would give the commission \$10,500 per annum, which is little enough since the game interests have been added to the fish commissioner's duties.

ACKNOWLEDGMENTS.

To the Burlington, Cedar Rapids & Northern and the Chicago, Milwaukee & St. Paul Railway companies are we under especial obligations for valuable courtesies rendered the commission whereby the efficiency of the work has been greatly increased. To other lines of railway, the Illinois Central, Iowa Central and C. G. W., are we also under obligations for favors granted, and also to the press of the state that has been outspoken in favor of the law and the work of the commission, thus creating a sentiment for the right and aiding in increasing the efficiency of the work accomplished.

We desire to thank members of both branches of the legislature for valuable suggestions and timely assistance and also for making wise changes in the law whereby the rights of honest sportsmen and the people generally may be better protected and the crimes of the poacher more easily punished.

THE BOOK BASS OR RED EYE (*Ambloplites rupestris*).

PUMPKIN-SEED OR BUNFISH (*Lepomis gibbosus*).

STATEMENT OF RECEIPTS AND EXPENDITURES.

The last biennial report gave an exhibit of receipts and expenditures from April 1, 1894, to October 31, 1895. At that time (October 31, 1895,) there was an unexpended balance, of the \$6,000 appropriated, of \$2,058.16. During the months of November and December, 1895, and January, February and March, 1896, there was expended of this amount \$839.51, leaving \$1,218.65, which was turned back into the treasury.

	Expend- itures.	Receipts.
Amount appropriated by the Twenty-sixth General Assembly		\$ 6,000.00
April, 1896	\$ 285 30	
May, 1896	202 18	
June, 1896	420 00	
July, 1896	209.24	
August, 1896	269.91	
September, 1896	109.30	
October, 1896	226.82	
November, 1896	309.80	
December, 1896	309.56	
January, 1897	169.23	
February, 1897	142.66	
March, 1897	1,123.54	
April, 1897	165.01	
May, 1897	180 52	
June, 1897	200.87	
July, 1897	247.95	
August, 1897	173 35	
September, 1897	182.39	
October, 1897	366.39—	\$ 5,273.52
Amount on hand November 1, 1897		\$ 726.48

This unexpended balance of \$726.48 is the only available resource the commission has for carrying the work forward for five months, until April, 1898.

An itemized report is filed with the auditor of state.

Respectfully submitted,

G. E. DELAVAN,
Commissioner.

SILVER BASS (*Roccauchenrops*).

THE CHUB SUCKER (*Pringoniscella*).

APPENDIX.

THE RED MOUTH BUFFALO FISH (*Ictalurus cyprinella*).

THE SPECKLED TROUT (*Salvelinus fontinalis*).

REPORT OF PROF. L. S. ROSS, OF DRAKE UNIVERSITY, UPON
THE INSECT LIFE IN OKOBOJI AND SPIRIT LAKES.

DES MOINES, Iowa, September 10, 1897.

Hon. George E. Delavan:

SIR—The practical as well as the theoretical value of a knowledge of the fauna and the flora of the streams and fresh water lakes is being recognized more and more by the scientist and by those interested in fish culture. Everyone recognizes that the fish must live upon what may be found in the water, unless they are fed artificially; but many people suppose they live upon something without stopping to think what that something may be. It has been only within recent years that any special attention has been given to the study of the food supply of the fresh water fishes. The researches of a few investigators show that many of the species depend upon the minute forms of animal life for their very existence. Dr S. A. Forbes, of the University of Illinois, made a study of the food of the fresh water fishes of Illinois through a period of several years by examining the contents of the stomachs of some hundreds of specimens of various species taken from the lakes, rivers, creeks and ponds of the state. As the result of his exhaustive work, Professor Forbes found that insect larvæ and the minute crustacea (water fleas) form a very large percentage of the food of most of the fresh water fishes examined. The importance of a thorough knowledge of the water fleas, or *Entomostraca*, is at once apparent. It is known that certain species occur more abundantly at certain periods of the year than at others; that some live in shallow, weedy pools, others in the muddy way-side ditch, and yet others in the clear waters of the lakes at varying depths. But there are many problems in connection with their occurrence and distribution, their relation to other minute forms of life, and their life history which are yet unsolved. These problems are being attacked by a few zoologists in Europe and America.

There can be no question concerning the value of a careful study of the *Entomostraca* of the state from the standpoint of the scientist or from that of the fish culturist, for the more that is known of the food of the young fish the more intelligently can their propagation and culture be carried on. The means have not been placed at the disposal of the fish commissioner so that any work of this character could be done by him. In this respect Iowa has not kept in line with some of her sister states. Illinois has its state laboratory of natural history; Minnesota, its natural history survey; Wisconsin has begun upon a natural history survey, and in the summer of 1893 the Michigan fish commission began some valuable work upon a biological investigation of Lake St. Clair.

A little preliminary work has been done by me upon the *Entomostraca* of the state as reported in the Proceedings of the Iowa Academy of Sciences for 1895 and also for 1896. In the summer of 1895 some collections were made by Mr. McCormack, a student of Drake university, and myself from Spirit Lake and from East and West Okoboji lakes. In June, 1896, I made a brief visit to the same lakes to obtain material for further study. Some collections have been taken also from the Des Moines river and from other streams and pools in the vicinity of Des Moines. The only work I have had opportunity to do is merely the identification of species of the order *Cladocera*. Collections from various parts of the state and a more thorough examination of the lakes already visited will add to the number of species reported.

The list of the species obtained is given below:

Family <i>Sididæ</i>	{	<i>Sida crystallina</i> O. F. Muller. <i>Daphnella brachyura</i> Liev.
	{	<i>Simocephalus vetulus</i> O. F. M. <i>Simocephalus serrulatus</i> Koch. <i>Ceriodaphnia reticulata</i> Jur. <i>Ceriodaphnia consors</i> Birge. <i>Ceriodaphnia lacustris</i> Birge. <i>Scapholeberis mucronata</i> O. F. M. <i>Daphnia hyalina</i> Leydig. <i>Daphnia kalbergiensis</i> Schoedl. <i>Daphnia retrocurva</i> Forbes. <i>Daphnia hybus</i> n. sp. <i>Daphnia</i> sp? <i>Daphnia pulex</i> DeGeer.
Family <i>Daphniidæ</i>	{	
Family <i>Bosminidæ</i>		<i>Bosmina longirostris</i> O. F. M.
Family <i>Macrothricidæ</i>	{	<i>Macrothrix laticornis</i> Jur. <i>Iliocryptus sordidus</i> Lieven.
	{	<i>Eurycercus lamellatus</i> O. F. M. <i>Alona guttata</i> Sars. <i>Alona</i> sp? <i>Dunhevedia setiger</i> Birge. <i>Pleuroxus denticulatus</i> Birge. <i>Pleuroxus procuevatus</i> Birge. <i>Pleuroxus exiguus</i> Lillj. <i>Chydorus sphæricus</i> O. F. M. <i>Chydorus globosus</i> Baird. <i>Leydigia quadrangularis</i> Leydig. <i>Camptocercus rectirostris</i> Schoedl. <i>Graptoleberis testudinaria</i> var. <i>Inermis</i> Birge.
Family <i>Lynceidæ</i>	{	
Family <i>Leptodoridæ</i>		<i>Leptodora hyalina</i> Lillj.

THE PICKEREL (*Esocetichnus Is Suar*).

MIRBOR O&P.

IOWA'S MEANDERED LAKES.

A statement of the meandered lakes of Iowa, their locality, area, and shore line, as shown by the meander notes of the government survey of same.

LAKE.	LOCALITY OF LAKE.			Height of water in acre.	ESTIMATED SHORE LINE.		
	Township	Range	COUNTY.		Miles	Chains	Links
*Goose lake, in sections 28, 29, 32 and 33.	N 68	E 6	Clinton	301.55	3	65	48
Muscataine slough in sections 7, 17, 18, 20, 21, 23 and 29.	N 74	W 3	Louisa	570.00	19	21	46
Olum lake.	N 76	3 and 8	Louisa	153.00	3	15	11 1/4
Green bayou, in sections 24, 27, 28, 29, 31, 32 and 33.	N 76	8	Lee	271.00	8	48	37
24, 25 and 27.	N 96	3	Muscatine	454.00	6	26	28
	N 96	3	Allamakee	193.86	2	50	69
	N 98	4	Delaware	44.25	1	52	27
	N 100	4	Allamakee	200.00	3	33	..
	N 80 and 81	7	Johnson	45.00	1	10	55
	N 81	3	Allamakee	679.00	6	16	39
	N 81	7	Johnson	68.73	2	6	..
	N 96	22	Cerro Gordo	3,543.27	13	25	42
	N 99	23 and 24	Worth and Winnebago	600.00	7	53	76
	N 100	22	Worth	313.00	3	8	95
17	N 100	23	Worth	153.00	3	18	50
24, 25 and 26.	N 98	23	Hamilton	886.94	6	24	13
16.	N 96	24	Hamilton	304.56	3	67	..
	N 87	24	Hamilton	142.00	2	1	55
	N 90	24 and 25	Hamilton	1,322.00	9	63	43
14 and 15.	N 94	24	Wright	968.35	6	73	91
28.	N 93	24	Wright	322.43	7	71	97
	N 93	24	Wright	450.83	7	67	32
	N 93	24	Wright	197.07	1	4	30
	N 94	24	Hancock	198.00	1	..	..
	N 95	24 and 25	Hancock	108.00	..	..	..
	N 96	24 and 25	Hancock	915.00	..	..	..
	N 100	24	Winnebago	71.20	5	28	94
	N 96	25	Hancock	59.00	1	27	40
	N 96	25	Hancock	249.68	1	7	47
	N 97	25	Hancock	1,733.20	2	63	13
29.	N 91 and 92	27	Humboldt	1,773.14	9	23	15
	N 92	27	Humboldt	..	4	65	..

MEANDERED LAKES—CONTINUED.

LAKE.	LOCALITY OF LAKE.			Estimated area in acres.	ESTIMATED SHORE LINE.		
	Township.	Range.	COUNTY.		Miles.	Chains.	Lakes.
Table	90 and 91	20	Webster and Humboldt.	211.00	3	40	67
.....	91	20 and 21	Humboldt.	308.00	2	60	69
.....	100	20	Kossuth.	125.00	2	60	79
.....	94	20 and 21	Greene.	715.00	2	68	78
.....	100	30	Kossuth.	78.43	1	35	.....
.....	100	30	Kossuth.	147.40	1	40	.....
.....	100	30	Kossuth.	48.00	2	75	.....
.....	91	31	Pocahontas.	27.25	3	75	75
.....	100	31	Emmet.	285.00	3	42	75
.....	88 and 89	22 and 23	Calhoun.	571.00	6	32	51
.....	96 and 97	22 and 23	Palo Alto.	980.00	12	67	31
.....	99	23 and 24	Emmet.	2,300.00	22	30	79
.....	100	22	Emmet.	945.00	3	58	.....
.....	100	23 and 24	Emmet.	147.00	2	15	96
.....	96	23	Calhoun.	160.84	2	3	79
.....	96	23	Calhoun.	490.00	4	41	58
.....	96	23	Emmet.	451.00	6	43	.....
.....	96	23	Emmet.	387.00	4	70	90
.....	99	23	Emmet.	442.28	5	40	.....
.....	100	23	Emmet.	177.20	2	68	.....
.....	99	34	Calhoun.	195.06	2	16	6
.....	91 and 92	34	Pocahontas.	170.00	3	8	68
.....	96	34	Pocahontas.	616.00	7	15	28
.....	94	34	Palo Alto.	501.15	4	1	20
.....	96	34	Palo Alto.	656.00	6	71	23
.....	96	34	Palo Alto.	194.37	6	29	35
.....	100	34	Emmet.	458.43	7	.....	.....
.....	96 and 97	25 and 26	Palo Alto and Olney.	2,475.00	28	.....	.....
.....	96 and 97	26	Olney.	1,773.00	2	3	15
.....	98	34	Emmet.	300.95	3	27	23
.....	99	34	Emmet.	316.43	4	74	16
.....	99	34 and 35	Emmet and Dickinson.	219.00	1	69	23
.....	99	35	Sac.	246.19	1	48	31
.....	99	35	Sac.	63.60	1	25	6
.....	99	35	Buena Vista and Olney.	172.97	1	13	60
.....	98 and 94	35	Olney.	325.59	2	29	68

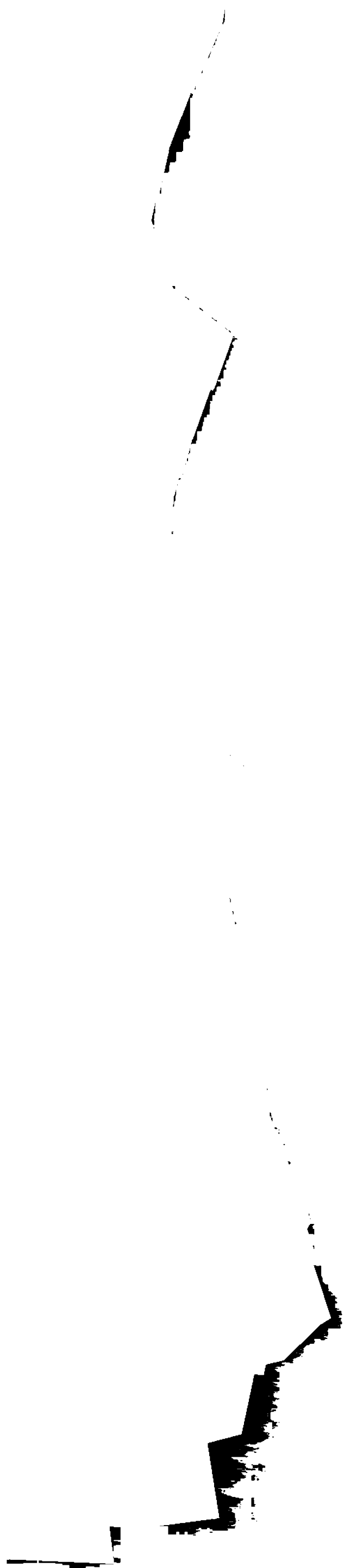
Lake, in sections 25 and 26.

THE LEATHER OARP (*Ogyrinus carpio* (var. *Corticeus*)).

LARGE-MOUTHED BLACK BASS (*Micropterus salmoides*).

THE BULL HEAD (*Ametrus vulgaris*).

THE PIKE (*Esochetus*).



1874

REPORT

OF THE

Custodian of Public Buildings

AND PROPERTY

TO THE

GOVERNOR OF IOWA,

FOR THE YEARS 1896 AND 1897.

JANUARY 1, 1898

GEORGE METZGER, CUSTODIAN OF PUBLIC BUILDINGS AND PROPERTY

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1898.

CUSTODIAN'S REPORT.

OFFICE OF THE CUSTODIAN
OF PUBLIC BUILDINGS AND PROPERTY, }
January 1, 1898.

To his Excellency, F. M. Drake, Governor of the State of Iowa:

DEAR SIR—In accordance with section 150, chapter 6, of the code, I have the honor to herewith submit the biennial report of this office, consolidating the expenditure of the two years preceding the meeting of the general assembly, as required by this law, showing the total expenditure for the period from January 1, 1896, to December 31, 1897. The quarterly and annual reports, as required by this office, in compliance with section 7 of chapter 148, laws of 1886, during the time before the laws of the code took effect, have been submitted, also the quarterly reports, according to section 150, chapter 6, of the code, to the executive council.

The total expenditure for the two years, for all purposes, coming proper under the taking care of the capitol and public buildings, has been \$61,081.03. This is quite an increase over the preceding two years, with an expenditure of \$54,996.30, but the extra session of the general assembly, during 1897, made necessary additional help in the janitor, police and boiler house force; also additional expenses in repairs and lighting, water and other expenses incidental to a legislative session. After the laws of the code took effect, giving control of all supplies to the executive council, this department took an invoice of all material and tools on hand at that time and submitted the same to the executive council. The total value of this invoice amounted to \$1,899.28. In justice to this department, this amount should be deducted from the total expenditure, leaving a total expense for the two years of \$59,181.75. As I had to draw from this invoice and charge the amount so drawn in the

expenses of such months when it is used, by so doing the expenses appear twice, once in the original purchase, and, second, when it is drawn from the invoice and used.

From this invoice the executive council added to their supply department all janitors' supplies, amounting in all to \$339.80. All the other supplies were charged to the custodian, as the same would be too bulky to keep in the supply department, and all such supplies as steam fittings might be used and badly needed for repairs in nighttime, or Sundays, in case of any accident to the heating apparatus, or any machinery in the building, when such department would be closed.

Your attention is most respectfully called to the following exhibits:

Exhibit A is a classified statement of expenditure during 1896 and 1897.

Exhibit B is an itemized statement of expenditure during 1896 and 1897.

Exhibit C is an itemized statement of expenditures in accordance with chapter 159, laws of 1896.

Exhibit D is an itemized statement of expenditure in accordance with joint resolution No. 9, extra session, Twenty-sixth General Assembly.

Exhibit E is a statement of sales and money paid to the treasurer of state.

Section 150 of chapter 6 of the code charges the custodian to make a list of all property under his care, with accurate plans and surveys of the public grounds at the seat of government. There is in the custodian's office a complete description of all such property, copies of the original deeds and transfers, and I could not see that it would be necessary to make the expense of a survey and plans thereof, and will give, following, a list of all property owned by the state at the seat of government.

CAPITOL SQUARE.

Containing 10.02 acres, deeded by W. A. Scott and Harrison Lyon, April 28, 1856.

On this square is built Iowa's great capitol, which, with the improvements of grounds, cost about \$3,000,000. It covers about 58,850 square feet, and there are in the basement, which is thirteen feet one inch high, twenty-eight rooms, occupied by the historical collections, dairy commission, pharmacy commission, land office, horticultural society, board of health, mine

**GENERAL ED. WRIGHT,
FIRST CUSTODIAN OF THE CAPITOL BUILDING, 1880-1890.**

inspectors, labor commission, geological survey, G. A. R., supply department, and document room. The other rooms are occupied as storerooms for the different departments.

On the first or main floor, which is 23 feet 9 inches high, are thirty rooms, occupied by the governor, auditor, public instructions, treasurer, attorney general adjutant general, custodian, clerk of the supreme court, railroad commissioners, agricultural society, six judges of the supreme court, consultation room, supreme court, and secretary of state. On both of these floors, extending from the center-space under the dome, 66 feet in diameter, are corridors to the north and south, which are 18 feet wide, and to the east and west, which are 54 feet 6 inches wide, the full length and width of the building.

On the second floor is located the state library in a room in the west wing, 52 feet 9 inches by 108 feet 4 inches, with a ceiling 44 feet 9 inches high. In the south wing is the senate chamber, 58 feet by 94 feet 4 inches, and 41 feet 9 inches in ceiling. In the north wing is the house of representatives, 74 feet by 91 feet 4 inches, and 49 feet 9 inches high; besides there are special rooms on this floor for the lieutenant-governor and the speaker, and on this and the third floor are twenty-nine committee rooms and a postoffice for the general assembly.

The attic contains the nine ventilation shafts, each six feet in diameter, which connect with every room in the building, and are sufficiently large to renew the air in the whole building every twenty-five minutes. In the cellar are located all the main pipes for steam, high and low pressure, gas, and also hot and cold water, the feeders for something over forty miles of pipes scattered through all the rooms in the building. The cellar is also used for supplying the whole building with fresh air through some of the cellar windows, but drawing its greatest supply through a tunnel which connects the capitol with the boiler house, and which is about 10x10 feet in the clear and extends from the north portico across Grand avenue.

The capitol has a length of 363 feet 8 inches by 246 feet 11 inches wide, and a total height of 275 feet, while the main roof is 92 feet 8 inches high. The whole building is practically fire-proof, and while it was thought to be amply large enough for doing the state's business in when it was built, and, in fact, a number of rooms stood vacant for a long time—all the rooms are now occupied, and large quantities of paper and books are piled in the corridor of the basement for the want of more room.

GOVERNOR SQUARE.

Containing 5.61 acres, deeded by T. K. Brooks and W. A. Scott, April 27, 1856; also lot A, Stewart's addition, according to the plat, adjoining the square, of about $\frac{1}{2}$ acre, deeded by J. B. Stewart, March 5, 1858. On this piece of ground there is no improvement, but the natural growth of timber is on it yet.

ASYLUM SQUARE, OR STATE SQUARE.

Containing about 2.25 acres, deeded by J. B. Stewart, January 9, 1858. There is no building on this piece of ground.

OLD CAPITOL GROUNDS.

Now occupied by the soldiers' and sailors' monument, lots 11 and 12, block 6, Scott's addition, deeded by the Capitol Building association, October 24, 1864. There is built on the ground and completed the soldiers' and sailors' monument, and the grounds are all sodded and finished. The shaft is all of gray granite, ornamented by bronze castings. The total height is about 145 feet, and the total cost was about \$150,000.

STATE ARSENAL.

Lots 7 and 8, block 33, original town of Fort Des Moines, the consideration \$3,500, paid by the city of Des Moines, deeded by F. M. Hubbell and Frances E. Hubbell, his wife, June 25, 1856. Here was built some thirty years ago, I believe in 1867, the arsenal for storing all supplies of the adjutant and quartermaster-general of the Iowa militia. The building was put up to suit the grade of the ground at that time, and if the state provides no other quarters for storing such supplies it should be raised to suit the established grade of the streets.

CAPITOL HEATING HOUSE.

Lot 3, block 4, H. Lyon's addition to town of Des Moines, deeded by Ed Wright, widower, April 5, 1878, the consideration being paid by the capitol commission, \$1,408.50.

Lot 4, block 4, Lyon's addition to the city of Des Moines, deeded by John M. Day and Jennie E. Day, his wife, June 17, 1880; consideration, \$1,720.

The ground was bought in order to have the heating apparatus, with its coal and ash dust and smoke, out of the capitol. There is located in the building occupying this ground, a battery of seven boilers, each 16 feet long and 60 inches in diameter, which will consume over thirty tons of coal per day in extreme cold weather to heat the capitol and make all rooms comfortable.

GROUND NORTH OF HEATING PLANT.

Lots 9 and 10, block 4, of H. Lyon's addition to Des Moines, executor's deed, John V. Wise, executor for the heirs of John H. Wise, the consideration being \$2,750, deeded April 23, 1894. These lots were badly needed to dispose of all the ashes from the heating plant and refuse from the capitol. Of course only the back part of the grounds is used for such purpose, and the front part of the lots might be put to some other use.

GROUNDS FOR THE ERECTION OF A MEMORIAL HALL.

Lots 1 and 2, block 7, of Scott's addition to the town of Des Moines, deeded by Flora Wright, unmarried, June 9, 1897, the consideration being \$4,300. This piece of ground is located across the street, east from the capitol, for the erection of a memorial hall.

Section 151 of chapter 6 of the code contains a provision as follows: "Each biennial report shall contain an inventory of all state property under his (custodian) control," making it the duty of this office to take an inventory of all material and tools and furniture in the capitol. I therefore attach to this report "A," invoice of all tools and material in charge of the custodian, amounting to \$2,017.32; also an inventory of all furniture and instruments belonging to the various offices in the capitol, giving first an invoice in each room or office; second, a list of furniture included in the invoice, but not in the capitol now, including copies of the original receipts for the same; third, a list of furniture in the capitol, but not property of the state; and fourth, a list of the different kinds and numbers of furniture in the building and their value. The total value is \$61,049.40. I have tried to be guided in the valuations by the original purchase price, when possible, but also by the condition of the furniture and its value to the state. I must say, however, in this place, that under the present circumstances, it will be impossible for any custodian to keep a proper and complete list of furniture in the capitol, as there has, since taking the inventory, been bought additional furniture and placed in the building, and so might also furniture be condemned, and worn out, or replaced by new pieces without this office knowing it or being able to account for it. Therefore, to keep a proper invoice, all furniture bought or worn out, should be required to be reported to the custodian, so it could be properly entered

on the books, and appear so in such inventory with the proper price paid for the same, by the office which purchased it.

I have reorganized the men, appointed by me, according to the code and the spirit of joint resolution No. 9 of the extra session. The carpenter of the building has been kept very busy, not alone by carpenter-work and repairing, but also by reseating the chairs in the building, and I have found that by the state buying the material, and doing the work here, it can be done better and cheaper than by letting the same work under contract. All the large windows are too heavy for the sash cord in use in the building, and the carpenter suggested to procure copper cable for the largest windows and copper cord for the smaller ones; and I find it more satisfactory, and, in fact, a saving to the state, as the breaking of the cords had already broken some of the large plate glass in the windows.

The engineer with fireman has had more repairing to do, especially during summer time, when the heating apparatus is not used. As the pipe system, boilers and elevator machinery get older it will require more care and attention than when everything was new.

The janitor force I have divided about the same on the different floors as it was before, and the same are kept busy to keep clean the corridors, and also the senate and house, including the carpets in all the committee rooms.

The help for the grounds is too small, and to keep the lawn of the capitol square mowed and clean, including the other state property, is really too much for two men; there should, therefore, be a third man added, and the authority given to the custodian to hire one more man.

During the two years there was, by the order of the executive council, purchased one desk, \$125, for the governor's office; two hundred tin boxes, \$50; an office chair, \$10, and two office chairs \$15, for the auditor's office; one typewriter's seat for public instructions office, \$7; pharmacy, eighteen tables, \$31.50. For the library, more shelving was needed, so the executive council ordered the fifth floor completed, and there is now all the shelving in place originally intended. The expenses incurred thereby was for lumber, \$99; for carpenter work, \$27.50; finishing, \$46.55.

In replacing carpets, the executive council ordered new carpets in the consultation room and the judges' private rooms, which took 479 yards of Brussels carpets, and an expenditure,

W. L. CARPENTER,
CUSTODIAN OF THE CAPITOL BUILDING, 1890-1893.

including laying, of \$635.06. I was also instructed to carpet the gallery and alcoves in the library, with an expenditure of \$600.84.

To better protect the state's property, and especially the treasurer's vault, I purchased two Winchester rifles and two revolvers for the use of the night watchman, and had the engineer put in place an electric alarm system, connecting the treasurer's and auditor's offices with the custodian's office by means of wires through the cellar, and expended for fire-arms, including ammunition, \$63; material for wires, batteries and bells, \$10.67.

When the streets around the capitol square were repaved in 1896, all the iron curbing had to be straightened to conform to the street line, and, to do so, some of the cement walk had to be removed. These cement blocks I used in building a sidewalk on the north side of the governor's square, and on both sides of the monument and the east side of the arsenal, and the cost thereof by contract was $2\frac{1}{2}$ cents per foot; total, \$234.27. This now makes a good and permanent walk for those places. The strip next to the street, around the capitol square, I had sodded, and last year had planted a row of hard maple trees, which, in time, should make the walks around the capitol more pleasant by their shade in summer time. The expenses for trees was \$31.30, planting and a protecting box around each tree, \$66.50.

The ground south of the capitol square, under the sidewalk, is very wet, so that the cement walk was all out of level. The only way to remedy this was to take up the walk and put a drain tile in. I was allowed by the executive council to do so, and contracted for the walk in place at $9\frac{1}{2}$ cents per foot, and three-inch tile in place, a distance of 415 feet, for \$31, a total expense of \$431.72, which puts the walks and streets around the capitol in excellent condition. In front of the property, north of the boiler house, there was ordered curbing, and the same was allowed by the executive council, and paid the contractor \$36 for the 100 feet.

The appropriation for painting, made by the Twenty-sixth General Assembly, was used as directed according to law, and there was left the sum of \$626.80 unexpended in the treasury, as all the rooms ordered painted were completed. Exhibit "C" gives a statement of the expenses incurred thereby. The appropriation, \$2,500, as shown by exhibit "C," for equipping the building with Welsbach lamps, is practically exhausted; but

the same has given more satisfaction to the occupants of the offices in the building than any other improvements made, besides causing a saving of about 50 per cent in the gas bill.

RECOMMENDATIONS.

Following the foregoing in regard to the Welsbach lamps, I would recommend an appropriation of \$1,000 to complete supplying the building with such lamps, as I have been unable to furnish the same to the offices in places where such lamps were needed.

In regard to the painting of the walls of the committee rooms and all the corridors, I can only repeat the recommendations made two years ago on page 9 of my report, "that the capitol cannot be called completed without this work," and the walls have stood now fourteen years without being finished, and there should be an appropriation sufficient to do the work in style, in harmony and in keeping with the other work in the building; and if there is not sufficient money appropriated all the corridors and committee rooms should have at least a few coats of paint for the sake of cleanliness, and to preserve the plastering on the walls, while the fresco work could be done at some other time. There should be at least \$5,000 appropriated so that this work could be carried on.

In the last two years of my official duty I have seen more and more the necessity of the recommendations made in my last report of the state to build a fireproof warehouse. The supply department and document department are getting more crowded from year to year, and the executive council is not able to provide proper place for storing the supplies of the state; besides, the basement of the capitol and the marble floor and stone pillars are not suitable material or properly arranged for that purpose and suffer accordingly by the handling of heavy boxes and trucks. I would, therefore, recommend an appropriation for the erection of such a building, if possible close to the capitol boiler house, so it could be heated from there without great expense. By so doing the state could move all the quartermaster-general's stores from the old arsenal to this building, dispose of that ground, and have its property located closer and better together. The corridors of the capitol would be relieved from the unsightly piles of paper, books and empty boxes, besides doing away with the danger of fire where there is

so much combustible substance piled up that cannot be protected, while the executive council would have proper rooms for storing the state's supplies.

Very little has been done in the last two years for the plumbing system in the capitol. Only the needed repairs and necessary additional connections were made, so I would recommend an appropriation of \$500 to overhaul all urinals and put the same in a sanitary condition.

In the handling of ashes from the boiler house I believe some improvements could be made if the custodian were authorized to put the proper machinery in place. As it is now, all the ashes and refuse of anywhere up to thirty tons of coal per day has to be loaded in wheelbarrows and then hoisted by hand about twelve feet high, to be wheeled across the alley. With an expenditure of \$500 I believe the proper machinery could be put in place.

I have tried to sell the greenhouse according to the order from the Twenty-sixth General Assembly, extra session, and have sent a letter to all florists here in town that the state would receive bids for the greenhouse, but have failed to get an offer for the same. Therefore I have had all the plants from the grounds put in there to keep the same over winter and be ready to put the same out in the yard in the spring, and the greenhouse could be used that way to a good advantage, without being an extra expense to the state.

In conclusion, and in going out from this office, I desire to tender my sincere thanks to all the departments for the uniform assistance and continued courtesy extended to me during the four years I have had charge of the capitol, and to testify to the ability and uniform fidelity of those I have had under my charge in the employment of the state as assistants, and to thank them for the faithful manner in which they have discharged the several duties assigned them; for no one ever had better or more faithful help, ever vigilant to the interest of the state and this office.

GEORGE METZGER,

□ *Custodian of Public Buildings and Property.*

I, George Metzger, as custodian of public buildings and property, being duly sworn, do hereby depose and say that

these reports of expenses incurred, with the laws in force, as given in each statement during the years of 1896 and 1897, are correct, to the best of my knowledge and belief.

GEORGE METZGER,

Custodian of Public Buildings and Property.

Subscribed and sworn to before me, by George Metzger, this
[L. S.] February 2, 1898.

J. E. WHELAN,

Deputy Clerk Supreme Court.

EXHIBIT A.

Classified statement of expenditures made by the Custodian of Public Buildings and Property in accordance with section 150, chapter 6, of the Code, from January 1, 1896, to December 31, 1897.

Police and escort.....	\$ 3,341.00	
Engineer	2,307.50	
Night watch.....	2,635.00	
Carpenter.....	2,061.25	
Elevator tender.....	1,852.25	
Grounds and greenhouse, labor	\$ 2,815.50	
expenses	150.35	
Total		2,965.85
Lighting, gas	\$ 2,828.80	
electric, and other expenses.....	381.25	
Total		3,210.05
Heating and pumping, labor.....	\$ 6,042.50	
fuel.....	4,407.36	
Total		10,449.86
Cleaning, labor.....	\$ 23,940.35	
soaps and tools	533.62	
Total		24,473.97
Telephones		913.80
Water		1,812.70
Ice.....		951.63
General repairs, labor.....	\$ 382.00	
material.....	1,485.33	
Total		1,867.33
Furniture repairs.		677.51
Miscellaneous		320.15
Ink messenger.		410.00
Office supply, fourth quarter, 1897.....		12.27
Towels.....		318.91
Total expenses for 1896 and 1897.....		\$ 61,081.03
Expenditure during the first quarter, 1896.....	\$ 12,324.36	
Expenditure during the second quarter, 1896.....	6,451.46	
Expenditure during the third quarter, 1896.....	6,028.97	
Expenditure during the fourth quarter, 1896.....	6,793.23	
Expenditure during the first quarter, 1897.....	10,859.44	
Expenditure during the second quarter, 1897.....	8,145.04	
Expenditure during the third quarter, 1897.....	4,727.67	
Expenditure during the fourth quarter, 1897.....	5,750.88	

EXHIBIT B.

Itemized statement of expenditures made by the Custodian of Public Buildings and Property in accordance with section 150, chapter 6, of the Code, from January 1, 1896, to December 31, 1897.

Labor, police, 283 days @ \$3.50.....	\$ 815.50	
319 days @ 2.50.....	797.50	
639 days @ 2.00.....	1,278.00	
6 months, \$900 per annum	450.00	
Total		\$ 3,341.00
engineer, 283 days @ \$3.50.....	\$ 815.50	
314 days @ 3.00.....	942.00	
6 months, \$1,100 per annum.....	550.00	
Total		2,307.50
night watch, 1,094 days @ \$2.50	\$ 2,735 00	
12 months, \$900 per annum.....	900.00	
Total		3,635.00
carpenter, 500 days @ \$3.00	\$ 1,500.00	
24½ days @ 2.50	61.25	
6 months, \$1,000 per annum	500.00	
Total		2,061.25
elevator tender, 887 days @ \$1.75.....	\$ 1,552.25	
6 months, \$600 per annum.....	300.00	
Total		1,852.25
fireman, 430 days @ \$2.25.....	\$ 967.50	
1,877½ days @ \$2.00.....	3,755.00	
22 months, \$720 per annum.....	1,320.00	
Total		6,042.50
janitors, 31 months, \$900 per annum	\$ 2,325.00	
27 months, 720 per annum	1,620.00	
62 months, 600 per annum	3,100.00	
20 months, 360 per annum	500.00	
797 days @ \$2.50.....	1,992.50	
413 days @ 2.25.....	929.25	
6,736 4-5 days @ \$2.00	13,473.60	
Total		23,940.35
greenhouse and grounds, 547 days @ \$2.50.....	\$ 1,367.50	
474 days @ 2.00.....	948.00	
10 months, \$600 per annum	500.00	
Total		2,815.50
general repairs, 191 days @ \$2.00.....		382.00
ink messenger, 205 days @ \$2.00		410.00
Total paid for labor.....		\$ 46,787.35
Water, capitol, 251,510 feet, 60 cents.....	\$ 150.94	
246,390 feet, 70 cents.....	184.79	
886,090 feet, 75 cents.....	664.56	
48,390 feet, \$1.50	72.59	
meter rent.....	8.00	
Total		\$ 1,080.88

grounds, 69,810 feet, 75 cents	\$	52.36	
80,500 feet, \$1.50		122.87	
5,450 feet, 2.25		12.29	
meter rent		7.00	
Total	\$		204.52
monument, 3,980 feet, \$2.25	\$	8.85	
minimum and rent		6.00	
Total			14.85
arsenal, 3,315 feet, \$2.25	\$	7.45	
minimum and rent		5.00	
Total			12.45
Grand total			\$ 1,812.70
Fuel, 4,964,450 pounds slack, 70 cents	\$	1,789.50	
6,390,200 pounds slack, 75 cents		2,896.27	
172,650 pounds pea, \$1.10		98.81	
194,550 pounds pea, 1.50		145.92	
30,700 pounds nut, 1.75		26.86	
Total			4,407.36
Gas, capitol, 2,243,200 feet, \$1.30	\$	2,786.16	
grounds, 19,060 feet, \$1.30		24.70	
arsenal, 18,800 feet, \$1.30		17.94	
Total			2,828.80
Telephones, 11 instruments 12 months, \$4.00	\$	880.00	
11 instruments 1 month, \$3.00		33.00	
3 messages .....		.80	
Total			913.80
Ice, 880,650 pounds, 25 cents			951.63
Towels, 118 towels, 45c	\$	53.10	
118 towels, 38½c		45.40	
119 towels, 15c		17.85	
94¼ yards crash, 15½c		14.59	
70 yards crash, 14c		9.80	
Making towels		1.85	
Washing 1,075 towels, 60c per dozen		53.75	
Washing 4,200 towels, 35c per dozen		122.57	
Total			518.91
Soap and tools for cleaning, ¼ gross sapolio	\$	2.50	
Cleaning carpets		20.90	
8 barrels soft soap		45.92	
12 dozen cakes of soap		7.84	
5 cases of soap		26.00	
55 bars of soap		2.01	
31 window cleaners		11.73	
1 dozen wall paper cleaners		3.00	
70 blankets		113.50	
128 1-5 yards cheese cloth		6.36	
18¼ gallons crude oil		3.33	
6 willow baskets		2.75	
5½ dozen mop sticks		7.15	
5½ dozen brooms		18.50	
6¼ dozen whisk brooms		9.90	
33 pails and coal hods		19.54	
29 feather dusters		24.26	
26 dust pans		5.35	
14 floor rubbers		7.00	
1 chamols skin .....		.35	
7¼ dozen papers carpet tacks		4.45	
6 pounds sponges		9.90	

4 barrels salt.....	\$ 4.80
7 quarts polish.....	1.95
Hauling.....	4.10
893 pounds savogran.....	62.51
½ dozen roach traps.....	1.50
9 floor brushes.....	41.30
20 scrub brushes	6.80
Sewing thread.....	.40
1 carpet stretcher.....	1.00
12 carpet sweepers.....	48.00
1 dozen cotton mops.....	1.28
Washing....	.65
72 pieces H. & H	7.50
1 pint turpentine .....	.05
2 balls twine.....	.06
6 handles.....	.60
Material for general repairs.....	583.62
20 elevator valve leathers	11.70
94 feet brass and wire screen.....	5.05
2 20 inch register.....	6.75
4 elevator locks.....	9.50
47 pounds sheet copper for roof	16.80
72 lock tumblers.....	9.00
4 trowels.....	2.00
222¼ pounds steel and iron	12.44
3 padlocks and hasps and staples.....	2.55
4 wheels and pinions, and rubber banding for truck	34.25
63 gallons cylinder and machine oil.....	24.33
10 barrels and 2 sacks cement	81.25
36 bushings and roller casings for elevator doors	12.36
4 brass tracks, elevator doors.	13.65
2 water gauges and 26 glasses.	8.20
107 7-16 pounds garlock and sheet packing.....	70.18
10 pounds plaster paris.....	.35
27 gallons linseed oil.	12.80
12¼ gallons varnish, drier and paint.	21.32
44 pounds putty.....	1.57
8¼ gallons turpentine.....	3.95
10 gallons gasoline	1.50
13 paint brushes.....	5.88
87½ pounds white and red lead.....	8.00
7 oil cans, \$2.05; 2 plyers, \$2.50	4.55
50 feet cable, \$1.15; 155 feet wire, 35c	1.50
32¼ gross screws and screw eyes	3.43
265 steam and gas fittings.....	13.07
511¼ feet of pipe.....	20.32
4 transom catches, ½ pound staples.....	.80
27 butts and hinges.....	5.25
12 drills and reemers.	4.85
301 pounds of nails and brads	9.20
48 pounds galvanized iron and 1 ice box..	11.80
28 pounds sash cord	12.65
Repairing tile floor, including labor.	112.85
Stone repairing.....	3.15
4 coal hods and pails.	2.75
2,502 feet lumber and machine work.....	90.44
6 wash tubs, \$7.50; 1 set S. wrenches, \$2.40	9.90
51 valves, basin and stop cocks.....	72.70
72¼ hours plumbing and plumbing material	72.85
1,628 pound furnace and grate castings.....	86.87
135 hours boiler repairing.....	42.20
83 pounds waste... ..	11.77
10 pounds glue, 3 pints glue.....	3.66
Repairing ink can, yard lamp, buckets	4.50

600 feet rope and halyard.....	\$ 6.50
4 pieces plate glass.....	107.25
17 pieces D. S. glass.....	7.52
Sheet lead and solder.....	6.40
5-16th inch wash bowls and plumbing.....	24.80
8 basin plugs.....	2.25
3 lead traps.....	5.50
1 closet bowl.....	12.50
1 urinal.....	9.20
11 gas brackets..	14.50
1 gallon muriatic acid.....	.35
Cutting plate glass.....	.50
2 quires 4½ dozen sand paper.....	1.90
1 oil stove, 2 screw drivers.....	1.55
60 gaskets for garden hose.....	2.00
2 wheels for elevator machine.....	4.00
1 wrench, 75c; 2 mortar hoes, \$1.50.....	2.25
6 candle holders.....	.55
404 machine and carriage bolts.....	14.94
6 punches, 75c; 1 cutter, \$1.75.....	2.50
8 pulleys, 40c; 4 sink brackets, 50c.....	.90
7 drawer locks.....	7.75
1 lock spindle and 14 screws.....	.25
3 bushels lime.....	1.05
200 pounds fire clay.....	2.90
1,225 feet of ½ and ¾ inch steel rope.....	98.49
1 sieve, 1 syringe, 2 ink cans.....	2.35
Hauling.....	.95
24 leg screws, 5 chest handles.....	1.70
Lining 8 closet tanks with sheet lead.....	33.85
127½ pounds paint.....	2.75
10 steel shovels.....	7.00
2½ dozen rings for flags.....	.50
22 mill files, \$1.60; 1 fine scraper, \$3.00.....	4.60
1 bit, 1 top.....	1.25
425 bibb washers.....	4.90
10 sheets tin.....	1.50
Repairing fresco painting.....	12.90
1 benzine burner.....	1.25
23 snow shovels.....	4.88
3 Yale lock cylinder with keys.....	7.00
5 fire tools.....	7.33
Repairing 2 inch gas cock.....	1.00
½ gallon alcohol and shellac.....	1.15
1 die, \$3.00; 17 key blanks, \$1.35.....	9.85
12 chair nuts.....	6.00
4 taper holders, \$3.00; 1 transom, 75c.....	3.75
35 pounds tallow.....	2.30
170 feet moulding.....	1.60
3 handles.....	.30
6 pounds marline.....	1.50
1 brass handle, hooks and eyes.....	.35
69 fire brick.....	2.07
140 pounds copper sash cord, 4 4-5c.....	6.72
400 pounds copper sash cable, 13½c....	55.35
10 set of window fasteners, 16c.....	1.60
36 hours carpenter work, 22½c.....	8.10
2 sinks.....	5.50
1 ice tong, \$1.25; 1 ice ax, \$1.50.....	2.75
1 vise, \$2.50; 1 hammer, 75c.....	3.25
4 cold chisels.....	1.50
Repairing walls, plastering.....	7.25

Planing sash weights.....	\$	.60	
10 pounds brass spring wire.....		3.60	
		<hr/>	
Total.....	\$		1,485.33
Grounds and greenhouse, 152 hose washers, menders and couplings	\$	5.75	
100 stakes, 100 labels		1.10	
252 yards and 8 rolls ribbon.....		6.35	
240 cut flowers.		8.20	
23 rolls crepe paper		6.75	
46 loads dirt, tobacco, evergreens, and plants.....		28.45	
Flower suds.....		5.10	
9 knives and chisels		3.25	
4 spades.....		5.00	
4 dozen bolts.....		.45	
Repairing 2 lawn mowers.....		3.25	
5 pounds white lead.....		.50	
2½ pounds wire, 1 plier.....		1.00	
150 feet garden hose.....		18.75	
5 scythe stones.....		.50	
Express on flowers .....		.40	
250 flower bulbs.....		6.80	
1 tobacco burner.....		2.00	
8 pounds bone meal.....		.25	
1 bale straw, 1 pound moss.....		.55	
4 tubs		5.00	
21 signs for lawn.....		7.50	
1 box of glass		3.25	
160 feet netting		3.45	
1 pruning shears.....		.50	
2 lawn mowers.....		25.00	
2 garden rakes.....		1.00	
Soap wash for trees .....		.25	
2 grass catchers.....		5.00	
		<hr/>	
Total.....			150 35
Electric and lighting expenses, 72 porous cups.....	\$	18.24	
60 La Olenke cells.....		22 32	
80 pounds sal ammoniac.....		7.20	
10 cases and 2 doz. bxs. matches...		17.72	
27 lighters		13.50	
46 boxes wax tapers.....		6.05	
40 feet elevator gas tubing.....		18.80	
136 ft. gas tubing with stork necks.		19 94	
10 Welsbach lamps.....		24.00	
210 mantels.....		105 00	
81 chimneys.....		22.15	
12 lantern globes.....		1.00	
12 jars for batteries.....		1.80	
710 feet insulated wire.....		8.16	
74 insulators.....		2.34	
50 feet conduit		5.50	
10 lanterns.....		10.13	
4 portable lamps.		21.85	
7 dozen lampwicks.....		.57	
150 gallons kerosene.....		12.00	
1½ pounds insulating tape.....		.70	
160 La Olanke zincs.....		6.00	
7¼ pounds bichromate potash.....		1.35	
54½ pounds sulphuric acid.....		2.10	
2 gallons muriatic acid.....		.76	
1½ gallons alcohol.....		4.60	
50 feet enunciator cable.....		20.00	

4½ pounds copper wire.....	\$	2.25	
1 electric bell.....		1.25	
196 candles.....		2.27	
12 push buttons.....		1.90	
1 shade.....		.20	
Total.....			\$ 381.25
Material for furniture repairs, 2 rolls picture wire.....	\$	.50	
70 chair leather and upholstering material.....		43.67	
6 curtain poles.....		2.16	
246 keys and key blanks.....		31.13	
Repairing 4 clocks.....		4.75	
27½ dozen key rings.....		3.75	
1 box key chains.....		1.25	
2 wood scrapers.....		.25	
100½ feet picture moulding.....		8.55	
5 dozen picture hooks.....		2.00	
16 curtains and rollers.....		23.75	
Repairing 4 lounges.....		10.00	
3 dozen tin cups.....		1.20	
10½ yards linoleum.....		17.33	
Upholstering 41 settees.....		214.80	
Repairing elevator seat.....		5.97	
Repairing chairs, governor's office.....		2.03	
1 head rest, treasurer's office.....		2.50	
1½ dozen perforated seats.....		1.35	
3 yards imitation leather.....		1.20	
36 waste baskets.....		37.00	
2 dozen rubber cuspidors, \$38.40; 5 doz. porcelain cuspidors, \$18....		56.40	
24 soap dishes, \$2; 16 pitchers, \$3.30.		10.30	
Mending flags.....		9.75	
7 dozen wardrobe hooks.....		2.75	
6 large flags, including expressage		84.55	
Repairs for opera chairs.....		4.60	
25 yards drill, webbing and gimp..		5.09	
4 dozen snap hooks, rings and rivets.....		1.40	
5 sets of casters.....		1.10	
4 boxes brass covered nails.....		1.70	
10 tables.....		18.50	
1 desk cover.....		4.00	
12 pieces shade cord..		3.05	
Upholstering material.....		4.38	
¼-gallon filler.....		.55	
50 chair springs.....		42.50	
Walnut lumber for gun case.....		5.00	
3 mirrors.....		4.65	
2 gavels.....		1.50	
Total.....			677.51
Miscellaneous, 2½ cases toilet paper.....	\$	233.75	
Hauling toilet paper.....		1.25	
18 engravings.....		85.15	
Total..			320.15
Office supplies, fourth quarter, 1897, 2 Journals.....	\$	.48	
15 manilla pads....		.90	
1 doz. pencils.....		.15	
1 gross pens.....		1.00	
1 bottle red ink.....		.08	
½ pint black ink.....		.11	
12 large blotters.....		.80	

150 1-cent stamps	\$	1.50
300 2-cent stamps		6.00
1 pint mucilage....		.40
½ doz. rubber erasers.....		.36
1 box paper fasteners.....		.07
1 box letter paper.....		.60
1 gross rubber bands.....		.33
		<hr/>
Total	\$	12.27
Total expense for 1896 and 1897.....		<hr/>
	\$	61,081.08

EXHIBIT C.

Statement of expenditures made by the Custodian of Public Buildings and Property in accordance with Chapter 159, Laws of 1896.

Sections 1 and 2 of chapter 159 appropriated for painting.....	\$ 4,000.00
Expenditures—For painting rooms Nos. 1, 2, 3, 4, 5, 10, 11, 12, 13, 14,	
15, 22, 23, 24, 25, 26, 27, 28, 29, postoffice, lobby and	
water closets on the second and third floors,	
contract.....	\$ 2,277.80
Muslin for covering gas fixtures.....	4.40
Lumber for scaffolding in rooms	30.00
Contract for painting window frames	360.00
Contract, gilding on the four domes	560.00
Contract, painting four domes.....	250.00
Contract, finishing outside doors... ..	100.00
Contract, gilding the tops of the four domes.....	382.00
Total	\$ 3,972.20
Unexpended balance.....	\$ 627.80
Section 2 of chapter 159 appropriated for Welsbach lamps.....	2,500.00
Expended—300 Welsbach lamps, 4 portable.....	\$ 839.25
700 Welsbach lamps.....	1,581.50
Repairs for lamps.....	51.00
Total	2,471.75
Unexpended balance.....	\$ 28.25

EXHIBIT D.

Statement of expenditures made by the Custodian of Public Buildings and Property, in accordance with Joint Resolution No. 9, extra session, Twentv-sixth General Assembly, during the year 1897.

Allowed to expend for extra labor per annum.....	\$	500.00
Expended during state fair, 28½ days extra police.....	57.00	
21 days extra janitor.....	42.00	
Expended during December cleaning sidewalk, one day's labor with one horse.....	3.00	
25½ days labor.....	51.50	
Total		153.50
Unexpended balance	\$	346.50

EXHIBIT E.

Statement showing sales and money paid to the Treasurer of State by the
Custodian from January 1, 1897, to December 31, 1898.

Sold, July 20, 1896, 20 flags.....	\$	50.00	
January 15, 1897, brass and paper.		2.50	
March 10, 1897, old junk		5.00	
September 10, 1897, two old lawn mowers.		2.00	
September 10, 1897, paper and old iron.....		2.00	
December 1, 1897, 1,700 pounds papers.....		8 40	
December 1, 1897, 6,850 pounds books		10.28	
Total			\$ 75.18
Paid to treasurer of state, July 22, 1896	\$	50.00	
April 10, 1897.....		7.50	
October 13, 1897.....		4.00	
January 6, 1898.....		13 68	
Total.....			75.18

INVOICE.

Of tools and machinery in care of the Custodian.

1 pipe machine, cutting 1 in. to 4 in.....	\$ 50.00
2 die stocks, cutting ½ in. to 2 in.....	13.00
2 pipe cutters.....	2.25
1 pipe vise.....	9.00
7 Stillson wrenches, 8 in. to 4 ft. long.....	27.50
9 pipe tongs, ¾ in. to 2 in.....	4.15
6 chain tongs, 3½ ft. to 5 ft. long.....	26.50
4 monkey wrenches.....	2.60
3 hammers.....	1.05
4 double blocks, 10 in.....	4.00
1 snatch block, 4 in.....	.75
1 double block, 6 in.....	.75
1 single block, 6 in.....	.60
300 feet ¾ in. rope.....	6.00
450 globes for gas burners, 10c.....	45.00
14 sections of ladder and braces.....	33.00
3 long ladders, \$3.50.....	10.50
250 slate, 8¼c.....	21.25
Flags and decorations.....	124.80
266 feet tiling, 19c.....	50.54
40 feet tiling, encaustic, 40c.....	16.00
4½ pounds packing.....	5.53
6 water gauges.....	1.25
6 pounds graphite, 25c.....	1.50
5 fire pokers, 60c.....	3.00
2 fire scrapers, 75c.....	1.50
2 clinker hooks, 50c.....	1.00
1 fluescraper.....	1.50
2 ash hoes, 75c..	1.50
2 iron wheelbarrows, 125.....	2.50
12 shovels.....	7.45
784 pounds furnace castings and grate bars.....	18.65
100 fire brick, 3c.....	3.00
1,250 feet hose.....	186.25
61 gallons machine oil, 15c.....	9.15
51 4-10 gallons cylinder oil, 35c.....	20.42
40 gallons coal oil, 7½c.....	3.00
1 blacksmith's vise.....	.75
3 fire tongs, 35c.....	1.05
1 sledge hammer.....	.65
1 anvil.....	1.00
1 portable forge.....	1.50
82 pounds rod iron.....	4.10
2 wash bowls, \$2.75 ..	5.50
50 chair springs, 85c.....	42.50
21 chair springs, 15c.....	3.15
1 set of plumber tools.....	6.00
1 breast drill.....	2.00
1 drill machine.....	10.00
85 key blanks, per dozen, \$1.50.....	4.87
6 key files, 10c.....	.60
19 Welsbach shades, 20c.....	3.80

68 Welsbach mantles, 50c.	\$	34.00
58 mica chimneys, 35c.		18.55
300 bibb washers.		2.60
4 bibbs, 55c.		2.20
2 pliers, 60c..		1.20
1 old gas stove		5.00
2 carpenter benches.		18.00
1 mortise machine.		20 00
14 hand screws, 30c.		4.20
1 corner brace..		1.50
1 grind stone.		1.50
78 feet poplar, 4c.		3.12
2 lawn mowers, \$5.		10.00
2 spades, \$1.		2.00
1 shovel. ....		.75
2 socket hoes. ....		.50
2 lawn rakes		1.30
2 wheelbarrows		2.45
2 Winchester rifles.		36.00
2 revolvers		24.00
1 pound washers for hose		1.50
800 feet copper sash cord, 4 4-5c.		41.28
1,398 feet copper sash cable, 13½c.		187 38
48 window fasteners, 16c		7.68
2 snow shovels. ....		.62
224 candles		2 38
20 gallons linseed oil, 33c.		6.60
9½ gallons turpentine, 40c.		3.75
100 pounds white lead.		5.50
25 pounds red lead.		1.37
18 pounds muriatic acid, 3c. ....		.54
45 gallons crude oil, 10c		4.49
85 bars of Doll soap, 2c..		1 70
71 leathers for chairs, including nails and webbing		43.87
5 lengths of gas tubing, \$1.02.		5.10
2 elbows, 14 in.		14 00
1 elbow, 6 in. ....		.78
37 elbows, 4 in., including reducing elbows		16.10
69 elbows, 3 in., including reducing elbows		19.58
40 elbows, 2½ in., including reducing elbows		7.92
23 elbows, 2 in., including reducing elbows		3.26
97 elbows, 1½ in., including reducing elbows		6 71
35 elbows, 1¼ in., including reducing elbows		1.80
101 elbows, 1 in., including reducing elbows		3.21
46 elbows, ¾ in., including reducing elbows. ....		.92
3 elbows, ½ in., including reducing elbows. ....		.08
41 elbows, ¾ in., including reducing elbows. ....		.41
2 elbows, ¾ in., including reducing elbows. ....		.09
5 1 in. lock nuts. ....		.25
1½ in. lock nut. ....		.04
1 tee, including reducing tees, 8 in.		3.00
1 tee, including reducing tees, 6 in.		1.10
12 tees, including reducing tees, 4 in		7.66
3 tees, including reducing tees, 3½ in.		1.20
94 tees, including reducing tees, 3 in.		31.89
79 tees, including reducing tees, 2½ in.		16.28
419 tees, including reducing tees, 2 in.		50.44
441 tees, including reducing tees, 1½ in.		27.01
517 tees, including reducing tees, 1¼ in.		25.09
399 tees, including reducing tees, 1 in.		15 30
467 tees, including reducing tees, ¾ in.		14.01
546 tees, including reducing tees, ½ in		5.64
2 tees, including reducing tees, ¾ in. ....		.04

1 plug, 6 in	8	.48
3 plugs, 3½ in .....		.45
9 plugs, 2½ in .....		.63
5 plugs, 2 in .....		.25
10 plugs, 1½ in .....		.30
14 plugs, 1¼ in .....		.28
1 plug, 1 in .....		.02
4 plugs, ¾ in .....		.04
7 plugs, ½ in .....		.07
3 plugs, ¾ in .....		.03
3 plugs, ¾ in .....		.03
4 plugs, ¾ in .....		.04
2 bushings, 4 in .....		.40
1 bushing, 3 in .....		.12
4 bushings, 2½ in .....		.36
3 bushings, 2 in .....		.18
3 bushings, 1½ in .....		.08
4 bushings, ¾ in .....		.08
2 bushings, ¾ in .....		.02
3 return bends, 1 in .....		.10
3,000 pounds soil pipe and fittings, 1c		30.00
7 crosses, 8 in		3 14
9 crosses, 2½ in		2.30
26 crosses, 2 in		4.16
19 crosses, 1½ in		1.90
24 crosses, 1¼ in		1 68
2 crosses, 1 in .....		.11
26 crosses, ¾ in		1.00
5 crosses, ½ in .....		.12
1 cross, ¾ in .....		.02
194 feet 9-inch pipe, 75c		145.50
26 feet 8-inch pipe, 55c		14 30
10 feet 4-inch pipe, 25c ..		2.50
23 feet 3-inch pipe, 23c		6.44
12 feet 1½-inch pipe, 15c		1 80
26 feet 1¼-inch pipe, 12c		8.00
79 feet 1-inch pipe, 8c		6.32
56 feet ¾-inch pipe, 5c		2 80
36 feet ½-inch pipe, 4c ..		1.44
27 feet ¾-inch pipe, 2c ..		.54
2 slip joints, 9-inch, \$12.50		25.00
3 valves, 8-inch, \$10		20.00
1 valve, 4-inch		5.00
1 valve, 3-inch		4 00
3 valves, 2-inch, \$1.10		3.30
5 valves, 1½-inch, 75c		3.75
14 valves, 1¼-inch		8.60
9 valves, 1-inch, 40c		3.60
3 valves, ¾-inch, 35c		1.40
4 valves, ¾ in., 30c		1.20
3 caps, 4 in .....		.78
4 caps, 3 in .....		.68
3 caps, 2½ in .....		.29
22 caps, 2 in		1.58
10 caps, 1½ in .....		.58
6 caps, 1¼ in .....		.30
1 cap, 1 in .....		.04
1 cap, ¾ in .....		.03
118 caps, ½ in		2.86
23 caps, ¾ in .....		.23
5 caps, ¾ in .....		.05
3 couplings, 9 in		3 30
2 couplings, 7 in		1.30

3 couplings, 6 in.....	8	1.44
3 couplings, 5 in.....		.99
10 couplings, 4 in.....		2.00
2 couplings, 3½ in.....		.32
30 couplings, 3 in.....		2.72
24 couplings, 2½ in.....		2.29
28 couplings, 2 in.....		2.05
22 couplings, 1½ in.....		1.10
30 couplings, 1¼ in.....		1.08
12 couplings, 1 in.....		.45
6 couplings, ¾ in.....		.16
88 couplings, ½ in.....		1.49
35 couplings, ⅜ in.....		.57
4 couplings, ⅜ in.....		.04
2 unions, 2 in., 16c.....		.32
2 unions, 1½ in., 12c.....		.24
8 unions, 1 in., 7c.....		.56
2 unions, ¾ in., 6c.....		.12
2 unions, ½ in., 4c.....		.08
1 union, ¾ in., 4c.....		.04
1 flange, 14 in.....		6.00
1 flange union, 9 in.....		6.00
1 flange union, 7 in.....		4.00
1 flange union, 6 in.....		2.50
1 flange union, 5 in.....		2.00
1 flange union, 2 in.....		.30
144 drop elbows, ¾ in.....		4.82
50 drop tees, ½ and ¾ in.....		2.36
20 brass elbows, 2 in., 25c.....		7.00
2 brass elbows, 1½ in., 20c.....		.40
6 brass elbows, 1 in., 14c.....		.84
72 brass elbows, ¾ in., 10c.....		7.20
12 brass elbows, ½ in., 9c.....		1.08
1 brass coupling, 2 in.....		.25
4 brass couplings, 1½ in., 15c.....		.60
12 brass couplings, 1¼ in., 12c.....		1.44
25 brass couplings, 1 in., 8c.....		4.00
1 brass coupling, ¾ in.....		.07
19 brass couplings, ¾ in., 6c.....		1.14
24 brass couplings, ½ in., 5c.....		1.20
5 brass tees, 1½ in., 25c.....		1.25
2 brass tees, 1¼ in., 20c.....		.40
64 brass tees, 1 in., 14c.....		8.96
154 brass tees, ¾ in., 13c.....		20.02
2 brass tees, ¾ in., 11c.....		.22
30 brass tees, ½ in., 9c.....		2.70
19 brass bushings, 1 in., 6c.....		1.14
14 brass bushings, ¾ in., 6c.....		.84
14 brass bushings, ¾ in., 5c.....		.70
1 brass cross 1¼ in.....		.11
3 brass return bends, 1¼ in., 20c.....		.60
Total.....		8 2,017.3

INVOICE

Of all furniture in the capitol building, made December, 1897, according to an order from the executive council, November 5, 1897, to the custodian.

Nos. 2-43 is a list of furniture in the different rooms.

Nos. 44-48 is a list of furniture included in the invoice, but not in the capitol now, including copies of the original receipts.

No. 49 is a list of furniture in the capitol, but not property of the state.

No. 50 is a list of the total value of all furniture.

Nos. 51-59 is a list of the different kinds and number of furniture in the building.

COMMITTEE ROOM NO. 1.

walnut tables, 10 feet, \$60 each	\$ 120.00	
1 dining-room table	20.00	
1 kitchen table	1.00	
1 desk, from old state house	1.00	
37 walnut chairs, small, \$10 each	370.00	
camp chairs, 60 cents each	5.40	
Total		\$ 517.40

COMMITTEE ROOM NO. 2.

1 walnut table, 8 feet	\$ 40.00	
5 walnut chairs, small, \$10 each	50.00	
Total		90.00

COMMITTEE ROOM NO. 3.

1 walnut table, 6 feet	\$ 30.00	
7 walnut chairs, small, \$10 each	70.00	
Total		100.00

COMMITTEE ROOM NO. 4.

1 walnut table, 6 feet	\$ 30.00	
1 desk, from old state house	1.00	
6 walnut chairs, small, \$10 each	60.00	
1 file case	2.00	
Total		93.00

COMMITTEE ROOM NO. 5.

1 desk, flat top	\$ 10.00	
1 kitchen table	1.00	
1 revolving chair	20.00	
1 walnut chair, small	10.00	
Total		41.00

COMMITTEE ROOM NO. 6.

2 oak tables, 10 feet, \$50 each	\$ 100.00	
22 cane chairs, \$3 each	66.00	
1 file case	2.00	
Total		168.00

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COMMITTEE ROOM NO. 7.

1 oak table, 6 feet.....	\$ 30.00	
6 cane chairs, \$3 each.....	18.00	
2 old chairs, 50 cents each.....	1.00	
Total.....		\$ 49.00

COMMITTEE ROOM NO. 8.

2 oak tables, 10 feet, \$50 each.....	\$ 100.00	
1 kitchen table.....	1.00	
26 cane chairs, \$3 each.....	78.00	
Total.....		179.00

COMMITTEE ROOM NO. 9.

1 oak table, 6 feet.....	\$ 30.00	
13 chairs, old, 50 cents each.....	6.50	
Total.....		36.50

COMMITTEE ROOM NO. 10.

1 oak table, 10 feet.....	\$ 50.00	
1 kitchen table.....	1.00	
10 cane chairs, \$3 each.....	30.00	
1 camp chair.....	.60	
1 portable lamp.....	4.00	
1 mirror, 12x18....	1 50	
Total.....		87.10

COMMITTEE ROOM NO. 11.

1 oak table, 8 feet.....	\$ 40.00	
8 cane chairs, \$3 each.....	24.00	
Total.....		64.00

COMMITTEE ROOM NO. 12.

2 oak tables, 10 feet, \$50 each.....	\$ 100.00	
2 settees, perforated seats, \$15 each.....	30.00	
23 cane chairs, \$3 each.....	69.00	
Total.....		199.00

COMMITTEE ROOM NO. 13.

1 oak table, 8 feet.....	\$ 40.00	
9 cane chairs, \$3 each.....	27.00	
Total.....		67.00

COMMITTEE ROOM NO. 14.

1 oak table, 8 feet.....	\$ 40.00	
10 cane chairs, \$3 each.....	30.00	
Total.....		70.00

COMMITTEE ROOM NO. 15.

1 oak table, 10 feet.....	\$ 50.00	
15 cane chairs, \$3 each.....	45.00	
1 kitchen table.....	1.00	
Total.....		96.00

COMMITTEE ROOM NO. 16.

1 oak table, 8 feet.....	\$ 40.00	
10 cane chairs, \$3 each.....	30.00	
Total.....		70.00

COMMITTEE ROOM NO. 17.

2 oak tables, 8 feet, \$40 each.....	\$ 80.00	
16 cane chairs, \$3 each.....	48.00	
Total.....		128.00

COMMITTEE ROOM NO. 18.

3 oak tables, 8 feet, \$40 each.....	\$ 120.00	
2 kitchen tables, \$1 each.....	2.00	
18 cane chairs, \$3 each.....	54.00	
Total.....		\$ 176.00

COMMITTEE ROOM NO. 19.

2 oak tables, 8 feet, \$40 each.....	\$ 80.00	
2 kitchen tables, \$1 each.....	2.00	
10 cane chairs, \$3 each	30.00	
Total.....		112.00

COMMITTEE ROOM NO. 20.

1 oak table, 8 feet.....	\$ 40.00	
12 cane chairs, \$3 each.....	36.00	
Total.....		76.00

COMMITTEE ROOM NO. 21.

2 oak tables, 8 feet, \$40 each.....	\$ 80.00	
1 kitchen table.....	1.00	
13 cane chairs, \$3 each	39.00	
Total.....		120.00

COMMITTEE ROOM NO. 22.

2 cherry tables, 10 feet, \$60.....	\$ 120.00	
23 cherry chairs, small, \$10 each.....	230.00	
Total.....		350.00

COMMITTEE ROOM NO. 23.

1 cherry table, 10 feet.....	\$ 60.00	
2 kitchen tables, \$1 each.....	2.00	
11 cherry chairs, small, \$10 each.....	110.00	
Total.....		172.00

COMMITTEE ROOM NO. 24.

2 cherry tables, 6 feet, \$40 each.....	\$ 80.00	
41 cherry chairs, small, \$10 each.....	410.00	
Total		490.00

COMMITTEE ROOM NO. 25.

1 cherry table, 6 feet. ..	\$ 40.00	
1 walnut desk	20.00	
5 cherry chairs, small, \$10 each	50.00	
Total		110 00

COMMITTEE ROOM NO. 26.

1 cherry table, 8 feet.....	\$ 50.00	
10 cherry chairs, small, \$10 each	100.00	
Total.. ..		150.00

COMMITTEE ROOM NO. 27.

1 walnut table, 10 feet.....	\$ 60.00	
18 walnut chairs, small, \$10 each.....	180.00	
1 walnut chair, revolving.....	20.00	
Total.....		260.00

COMMITTEE ROOM NO. 28.

1 cherry table, 10 feet.....	\$ 60.00	
1 dining-room table	20.00	
9 cherry chairs, small, \$10 each	90.00	
Total.....		170 00

COMMITTEE ROOM NO. 29.

1 cherry table, 3 feet.....	\$ 50.00	
1 cherry table, square.....	15.00	
1 office stool.....	.50	
1 kitchen table.....	1.00	
12 cherry chairs, small, \$10 each.....	120 00	
Total.....		\$ 186.50

LIEUTENANT-GOVERNOR—TWO ROOMS.

1 cherry desk, French.....	\$ 150.00	
1 cherry table, 6 feet.....	40.00	
1 settee, plush.....	60.00	
1 chair, plush, revolving.....	40.00	
4 chairs, plush, small, \$30 each.....	120.00	
1 chair, mahogany, revolving.....	25.00	
3 chairs, cherry, small, \$10 each.....	30.00	
1 chair, cherry, arm.....	15 00	
1 mirror, 15x28.....	2.00	
Total.....		482.00

SPEAKER OF THE HOUSE—TWO ROOMS.

1 walnut desk.....	10.00	
1 walnut table, 6 feet.....	40 00	
1 ash table, 4 feet.....	5 00	
1 kitchen table.....	1.00	
1 settee, plush.....	60.00	
1 chair, plush, revolving.....	40 00	
4 chairs, plush, small, \$30 each.....	120.00	
3 chairs, walnut, small, \$10 each.....	30.00	
5 camp chairs, 60 cents each.....	3.00	
1 mirror, 12x18.....	1.50	
Total.....		360.50

JANITOR'S ROOM—EAST THIRD STORY.

3 chairs, 50 cents each.....	\$ 1.50	
1 desk, from old state house.....	1.50	
Total.....		3.00

POSTOFFICE—SECOND STORY.

1 packing table.....	\$ 8.00	
4 small chairs, \$10 each.....	40.00	
1 chair, upholstered.....	25.00	
1 chair, revolving.....	3 00	
1 clock.....	1.00	
Total.....		73.00

TELEGRAPH OFFICE.

1 table, 4 feet.....	\$ 8 00	
1 walnut chair.....	10.00	
Total.....		18.00

LADIES' TOILET.

1 desk, from old state house.....	\$ 1.00	
2 walnut chairs, small, \$10 each.....	20.00	
1 settee, perforated seat.....	15.00	
1 mirror, 7x2 feet.....	20 00	
Total.....		56.00

HOUSE OF REPRESENTATIVES.

118 revolving chairs, five in the library, \$20 each.....	\$2,360.00	
10 settees, leather, \$65 each.....	650.00	
28 arm chairs, two in the library, \$15 each.....	420.00	
10 pairs of curtains, attic storeroom, \$150 each.....	1,500 00	
8½ pairs of curtains, \$40 each.....	380.00	
1 file case.....	2.00	
Total.....		5,312.00

WATER CLOSET OF THE HOUSE.

4 chairs, 50 cents each.....	\$ 2.00	
1 mirror, 14x24.....	2.00	
Total		\$ 4.00

CLOAK-ROOM OF THE HOUSE.

1 walnut table, 5 feet.	\$ 25.00	
70 camp chairs, 60 cents each.	42.00	
2 settees, perforated seats, \$15 each	30.00	
Total		97.00

NORTH AND SOUTH GALLERY OF THE HOUSE.

10 walnut arm chairs, \$15 each ...	\$ 150.00	
1 camp chair .....	.60	
2 chairs, 50 cents each.....	1.00	
Total ..		151.60

SERGEANT-AT-ARMS OF THE HOUSE.

1 walnut table.....	\$ 15.00	
1 camp chair.....	.60	
3 pigeonhole cases.....	2.50	
Total .		18.10

ROTUNDA.

3 settees, perforated seats, \$15 each.		45.00
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CORRIDOR SOUTH OF SENATE.

2 dining-room tables, \$20 each.....	\$ 40.00	
1 packing room table.....	3.00	
Total.		43.00

SENATE CHAMBER.

70 revolving chairs, mahogany, \$25 each .	\$ 1,750.00	
22 arm chairs, mahogany, \$20 each.....	440.00	
10 settees, leather, mahogany, \$75 each .	750.00	
2 settees, perforated seats, belonging in the corridor, \$15 each.....	30.00	
10 pairs of curtains, attic storeroom, \$150 each	1,500.00	
3 pairs of curtains, attic storeroom, \$40 each .	120.00	
Total		4,590.00

CLOAK-ROOM OF THE SENATE.

1 cherry table, 5 feet.....	\$ 25.00	
2 desks, from old state house, \$2 each.....	4.00	
76 camp chairs, 60 cents each	45.60	
Total		74.50

SERGEANT-AT-ARMS OF THE SENATE.

1 desk.....	\$ 5.00	
2 mahogany arm chairs, \$20 each	40.00	
1 kitchen table	1.00	
Total		46.00

WATER CLOSET, SENATE.

2 chairs, 50 cents each.....	\$ 1.00	
1 small bench.....	.50	
1 mirror, 15x23.....	2.00	
Total		3.50

NORTH AND SOUTH GALLERY OF THE SENATE.

11 small cherry chairs, \$10 each.....	\$ 110.00	
3 camp chairs, 60 cents each..	1.80	
2 chairs, 50 cents each.....	1.00	
4 dining room chairs in the attic, \$2.50 each.....	10.00	
Total		122.80

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LIBRARY.

1 upholstered chair, revolving.....	\$ 30.00
2 upholstered chairs, small, \$20 each.....	40.00
1 upholstered settee.....	50.00
37 small chairs, \$10 each.....	370.00
23 dining-room chairs, \$2.50 each.....	52.50
8 chairs, 50 cents each.....	4.00
1 chair, oak, revolving.....	20.00
1 chair, revolving.....	2.00
1 desk, rolling top.....	100.00
1 desk in the main room.....	250.00
1 desk, flat top.....	75.00
1 typewriter with desk.....	50.00
1 clock.....	2.00
1 mirror, 26x24.....	5.00
1 mirror, 24x15.....	2.00
1 stand for large book, wood.....	10.00
1 stand, adjustable, iron.....	5.00
2 stands, wood, 50 cents each.....	1.00
1 revolving book case.....	15.00
11 tables, 5 feet, \$20 each.....	220.00
6 tables, 4 feet, \$10 each.....	60.00
1 table, 3 feet.....	10.00
3 tables, kitchen, \$1 each.....	3.00
1 file case, 5 feet long.....	25.00
1 stand, \$10, with letter press, \$10.....	20.00
Total.....	\$ 1,451.50

GOVERNOR'S OFFICE—FOUR ROOMS.

1 piano and stool, including cover.....	\$ 250.00
1 French desk, mahogany.....	200.00
1 French desk.....	150.00
2 double desks, cherry, \$125 each.....	250.00
1 double desk.....	80.00
1 standing desk, 15 feet long, \$20 per foot.....	300.00
1 table, mahogany.....	200.00
1 table, mahogany.....	150.00
2 tables, cherry, 6 feet, \$40 each.....	80.00
1 table, mahogany, 3 feet.....	15.00
1 table, walnut, 4 feet.....	10.00
14 arm chairs, plush, \$45 each.....	630.00
10 small chairs, plush, \$30 each.....	300.00
3 revolving chairs, leather, \$35 each.....	105.00
4 arm chairs, leather, \$40 each.....	160.00
3 arm chairs, leather, \$30 each.....	90.00
1 small chair, leather.....	20.00
1 oak chair.....	10.00
2 revolving chairs, cane seats, \$7.50 each.....	15.00
1 revolving chair, plush.....	10.00
1 cane rocker.....	3.00
1 dining room chair.....	2.50
1 chair.....	.50
5 sofas, plush, mahogany, \$90 each.....	450.00
1 sofa, plush.....	50.00
1 letter press.....	15.00
7 pairs of silk lined curtains, \$75 per pair.....	525.00
3 portable lamps, \$5 each.....	15.00
1 typewriter with desk, in use one year.....	100.00
1 typewriter with desk, in use two years.....	85.00
1 typewriter, in use four years.....	50.00

1 revolving book case.....	\$ 12.00
1 revolving book case.....	7 00
2 dictionaries with stands, \$12 each.....	24.00
1 mirror, 6 feet x 2 feet.....	10.00
1 mirror, 28x15 inches.....	1.50
Total.....	\$ 4,325.50

AUDITOR'S OFFICE—THREE ROOMS ON FIRST FLOOR, ONE STOREROOM IN BASEMENT.

1 French desk, walnut.....	\$ 125.00
1 standing desk, walnut, 12 feet long.....	240.00
1 standing desk, walnut, 8 feet long.....	160.00
3 double desks, flat top, \$100 each.....	300.00
1 desk, with table on both sides.....	200.00
1 desk, flat top.....	40.00
1 standing desk.....	6 00
5 pigeonhole cases.....	555.00
1 walnut table, 8 feet.....	50.00
1 walnut table, 6 feet.....	40.00
1 walnut table, 10 feet.....	30.00
2 walnut tables, 3 feet, \$8 each.....	6.00
1 table.....	4.00
1 kitchen table.....	2.00
2 sofas, plush, \$50 each.....	100.00
3 revolving book cases, \$12 each.....	36.00
4 mail boxes, hammered iron, \$5 each.....	20.00
3 portable lamps, \$5 each.....	15.00
9 revolving chairs, \$20 each.....	180.00
11 arm chairs, \$15 each.....	165.00
10 small chairs, \$10 each.....	100.00
2 revolving chairs, \$7.50 each.....	15.00
1 revolving chair, cane seat.....	5.00
1 adjustable seat.....	7.50
1 office stool.....	1 00
1 office stool.....	.50
1 chair.....	.50
1 dictionary and stand.....	12.00
1 typewriter with desk in use one year.....	90.00
1 mirror, 20x12.....	1.00
2 pairs of curtains, \$50 each.....	100.00
1 bank punch.....	25.00
1 letter press.....	12.50
1 scale.....	2.00
Total.....	\$ 2,646.00

SUPERINTENDENT OF PUBLIC INSTRUCTION—TWO ROOMS FIRST FLOOR, ONE STOREROOM IN BASEMENT.

2 French desks, walnut, \$150.....	\$ 300.00
2 double desks, flat top, \$100.....	200.00
1 table, walnut, 8 feet.....	50.00
2 tables, walnut, 6 feet, \$40.....	80.00
1 table, dining room.....	20.00
4 revolving chairs, walnut, \$20.....	80.00
16 arm chairs, walnut, \$15.....	240.00
9 small chairs, walnut, \$10.....	90 00
3 dining-room chairs, walnut, \$2.50.....	7 50
1 revolving chair.....	2.00
1 adjustable seat.....	7 50
2 sofas, plush, \$60.....	120.00
2 dictionaries with stands, \$12.....	24.00
2 revolving book cases, \$12.....	24.00

1 Shannon file case, 2½ feet wide.....	\$ 25.00 .
1 typewriter with desk, in use six years.....	60.00
1 standing desk, 12 feet.....	180.00
1 mirror, 16x14.....	2.00
1 letter press..	15.00
2 window curtains, \$50.....	100.00
1 door curtain.....	15 00
Total.....	\$ 1,642.00

TREASURER'S OFFICE—TWO ROOMS.

1 French desk, walnut ..	\$ 150.00
1 standing desk, walnut, 7½ feet long.....	112.50
1 flat top desk	60.00
1 file case, 4 feet wide	30.00
2 walnut tables, 6 feet, \$30	60.00
1 table for letter press	5.00
2 revolving book cases, \$12	24.00
1 wash stand, marble top.....	5.00
1 table, marble top.....	10.00
2 dictionaries with stands, \$12.....	24.00
1 typewriter with desk, new.....	120.00
2 pairs of curtains, \$50.....	100.00
2 sofas, plush, \$60	120.00
1 adjustable book stand	10.00
5 revolving chairs, walnut, \$20.....	100.00
9 arm chairs, walnut, \$15.....	135.00
9 small chairs, walnut, \$10.....	90.00
1 office stool.....	1.00
1 U. S. Springfield rifle, belt and ammunition.....	30.00
2 revolvers, Colt's navy, \$15.....	30.00
1 bank punch	25.00
1 scale	2.00
3 portable lamps, \$5..	15 00
1 mirror, 28x16	2.00
1 letter press.....	15.00
Total....	\$1,275.50

ADJUTANT-GENERAL'S OFFICE—TWO ROOMS FIRST FLOOR, ONE ROOM IN THE BASEMENT

1 book-case, 8 feet.....	\$ 100.00
2 pigeonhole cases, 6 feet, \$75 each.....	150.00
2 pigeonhole cases, 9 feet, \$112.50 each.....	225.00
1 pigeonhole case, 23 feet.....	237.50
2 standing desks, \$38 each	76.00
1 French desk..	125.00
1 rolling top desk.	50.00
1 revolving book-case	7.00
1 typewriter with desk, in use five years.....	75.00
1 dictionary with stand	12.00
1 stand for letter press..	5.00
1 letter press.....	8.00
1 flat top desk.	12.00
1 revolving chair ...	30.00
1 revolving chair.....	10.00
1 revolving chair	6.00
12 arm chairs, \$5 each	60.00
1 portable lamp.	5.00
1 mirror, 28x15 in..	2.00
1 door curtain.....	5.00
1 30-foot case	400.00
2 tables, \$4 each.....	8.00

8 chairs, 50c each	\$ 1 50	
1 table.....	2 00	
1 table.....	1.00	
Total.....		\$1,663.00

ATTORNEY-GENERAL—ONE ROOM.

1 desk, rolling top.....	\$ 150.00	
1 desk, flat top.....	100 00	
1 book case, 12 sections	33.00	
1 typewriter with desk	100.00	
1 stand for letter press	5.00	
1 letter press	10.00	
1 stand	1.25	
1 dictionary and stand	12.00	
1 revolving chair.....	20.00	
3 arm chairs, \$15 each.....	45.00	
8 small chairs, \$10 each	80.00	
1 revolving book case.....	12.00	
1 cherry table, 8 feet....	50.00	
1 chair.....	50	
1 sofa, plush	60.00	
1 mirror, 50x18	5.00	
1 portable lamp.....	5.00	
Total		688.75

CUSTODIAN'S OFFICE—ONE ROOM.

1 table, cherry, 8 feet	\$ 50.00	
1 table, walnut, 10 feet.....	25.00	
2 square tables, \$10 each.....	20.00	
1 desk	5.00	
1 pigeonhole case.....	10.00	
1 key case.....	15.00	
1 bookcase	20.00	
1 bookcase and desk	20.00	
1 cherry washstand.....	5.00	
1 stand for letter press	2.00	
1 dictionary and stand.....	12.00	
1 washstand, walnut.....	2.00	
1 revolving chair.....	20 00	
3 arm chairs, \$15 each.....	45.00	
2 small chairs, \$10 each	20.00	
3 dining-room chairs, \$2.50 each	7.50	
1 letter press.....	5 00	
1 aeronometer.. ..	20.00	
1 scale	2.00	
1 portable lamp.....	5.00	
1 gun case.....	8.00	
1 engineer's level.....	100.00	
2 Winchester rifles, \$18 each	36.00	
2 revolvers, \$12 each	24.00	
Total		478.50

CLERK OF THE SUPREME COURT—TWO ROOMS ON THE FIRST FLOOR, ONE ROOM IN THE BASEMENT.

1 standing desk, 12 feet long	\$ 300.00	
1 French desk	150.00	
1 double desk, flat top.	125.00	
2 old desks, \$10 each.....	20.00	
1 desk from old state house.....	2.00	



1 table, cherry, 8 feet	\$ 40.00
1 table, stained	20.00
1 table, round	5.00
1 revolving book case	12.00
1 dictionary and stand	12.00
1 file case	3.00
1 file case in vault	5.00
1 case for letter press	4.00
1 letter press	6.00
1 plush sofa	50.00
4 revolving chairs, \$20 each	80.00
11 arm chairs, \$15 each	165.00
8 dining room chairs, \$2.50 each	20.00
4 chairs, 50 cents each	2.00
1 office stool	1.00
1 adjustable book stand	10.00
1 portable lamp	5.00
1 shelf, 4 feet high	6.00
1 scale	1.00
1 typewriter with desk, in use 6 years	60.00
Total	\$ 1,164.00

RAILROAD COMMISSION—TWO ROOMS ON THE FIRST FLOOR, ONE ROOM IN BASEMENT.

1 standing desk, 7 feet	\$ 140.00
1 double desk, flat top	125.00
1 flat top desk	60.00
1 desk from old state house	2.00
1 table, cherry, 8 feet	50.00
1 table, cherry, 6 feet	40.00
1 typewriter with desk, in use 6 years	50.00
1 stand for letter press	20.00
1 letter press	12.50
1 adjustable book stand	10.00
1 adjustable seat	5.00
1 plush sofa	50.00
1 portable lamp	5.00
6 revolving chairs, \$20 each	120.00
19 arm chairs, \$15 each	180.00
8 small chairs, \$10 each	80.00
1 chair, perforated seat	3.00
4 chairs, 50 cents each	2.00
1 office stool	1.00
1 adding machine	50.00
1 scale	2.00
1 drafting table	10.00
2 wardrobes, \$6 each	12.00
Total	\$ 1,029.50

AGRICULTURAL SOCIETY—TWO ROOMS.

2 walnut tables, 10 feet, \$60 each	\$ 120.00
1 walnut table, 8 feet	50.00
1 double desk, flat top	125.00
1 desk, flat top	100.00
1 desk, flat top	40.00
1 standing desk, 8 feet long	120.00
1 washstand	4.00
2 revolving chairs, \$20 each	40.00
2 arm chairs, \$15 each	30.00
14 small chairs, \$10 each	140.00
1 portable lamp	5.00

4 newspaper cases, 4x8 feet, \$100 each.....	\$ 400 00	
1 display case.....	50.00	
2 plush sofas, \$50 each	100 00	
1 dictionary and stand.....	12.00	
1 mirror, 24x12.....	1.50	
Total.....		\$ 1,237.50

JUDGE'S ROOM NO. 1.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket...	\$ 100.00	
1 dresser.....	50.00	
1 plush sofa.....	50.00	
1 table, 4 feet.....	25.00	
1 cane rocker.....	6.00	
2 small chairs, \$10 each....	20.00	
1 chair.....	.50	
1 book rack	3.00	
1 portable lamp	5.00	
1 clock.....	6.00	
1 pair of curtains.....	25.00	
1 typewriter, Hammond.....	10.00	
1 typewriter in use one year	75.00	
Total.....		375.50

JUDGE'S ROOM NO. 2.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket...	\$ 100.00	
1 dresser.....	50.00	
1 plush sofa	50.00	
1 table, 4 feet.....	25.00	
1 book rack.....	3.00	
1 revolving chair	20 00	
1 arm chair.....	15.00	
1 small chair.....	10.00	
1 portable lamp.....	5.00	
1 pair of curtains.....	25.00	
1 typewriter.....	75.00	
Total.....		378.00

JUDGE'S ROOM NO. 3.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket, \$	100.00	
1 dresser.	50.00	
1 plush sofa.....	50.00	
1 table, 4 feet.....	25.00	
1 book rack.....	3.00	
1 revolving chair.....	2.50	
1 arm chair.....	15.00	
1 small chair.....	10.00	
1 pair of curtains.....	25.00	
1 typewriter, in use eight years...	45.00	
1 typewriter.....	75.00	
Total.....		400.50

JUDGE'S ROOM NO. 4.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket, \$	100.00	
1 dresser.....	50.00	
1 plush sofa.....	50.00	
1 table, 4 feet.....	25.00	
1 book rack.....	3.00	

1 revolving chair.....	\$ 20.00	
1 arm chair.....	15.00	
2 small chairs, \$10 each.....	20.00	
2 pairs of curtains, \$25 each.....	50.00	
1 portable lamp.....	5.00	
1 typewriter.....	75.00	
Total ...		\$ 413.00

JUDGE'S ROOM NO. 5.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket, \$	100.00	
1 dresser.....	50.00	
1 plush sofa.....	50.00	
1 table, 4 feet.....	25.00	
1 book rack.....	3.00	
1 revolving chair.....	20.00	
1 arm chair.....	15.00	
1 small chair	10.00	
1 portable lamp.....	5.00	
2 pairs of curtains, \$25 per pair.....	50.00	
1 typewriter.....	75.00	
Total		403.00

JUDGE'S ROOM NO. 6.

1 folding bed, including 1 mattress, 2 pillows, 1 comfort, 1 blanket, \$	100.00	
1 dresser.....	45.00	
1 wardrobe	18.00	
1 desk	35.00	
1 leather sofa.....	45.00	
1 revolving chair.....	20.00	
1 arm chair.....	15.00	
1 small chair.....	10.00	
1 book rack	3.00	
1 portable lamp.....	5.00	
1 typewriter, in use three years.....	85.00	
Total.		376.00

SUPREME COURT.

1 mahogany desk.....	\$ 125.00	
4 tables, 8 feet, \$25 each.....	200.00	
1 stand on the table.....	10.00	
6 revolving mahogany chairs, \$25 each.....	150.00	
1 revolving cherry chair.....	20.00	
1 revolving walnut chair.....	20.00	
1 dining room chair.....	2.50	
4 mahogany arm chairs, \$20 each.....	80.00	
2 cherry arm chairs, \$15 each.....	30.00	
4 settees, \$80 each	320.00	
1 portable lamp	5.00	
2 pairs of curtains, \$125 per pair.....	250.00	
Total		2,297.50

SECRETARY OF STATE—TWO ROOMS.

1 French desk, walnut.....	\$ 150.00	
1 double desk, flat top.....	125.00	
1 double desk, flat top.....	75.00	
1 standing desk, 12 feet long.....	300.00	
2 tables, 4 feet, \$30.....	60.00	
1 table, 3½ feet.....	10.00	
1 table.....	2.00	
1 file case, 2 feet wide	15.00	
1 book case, 8 feet high.....	20.00	
1 book stand, wood.....	3.00	

1 adjustable book stand	\$ 10.00
1 portable book case	3.00
2 dictionaries with stand, \$12.....	24.00
1 letter press.....	15.00
2 revolving book cases, \$12.....	24.00
2 plush sofas, \$50.....	100.00
5 revolving chairs, \$20.....	100.00
7 arm chairs, \$15	105.00
6 small chairs, \$10.....	60.00
1 mirror, 26x15.....	3.00
3 pairs of curtains, \$50.....	150.00
1 typewriter with desk, in use 1 year.....	100.00
1 scale	2.00
Total.....	\$ 1,496.00

HISTORICAL COLLECTION—THREE ROOMS.

1 desk, oak.....	\$ 60.00
1 desk, roll top.....	50.00
1 desk, oak, in corridor	10.00
1 desk for visitors' register.....	5.00
1 desk, circular	15.00
5 glass cases, \$182	900.00
1 insect case.....	35.00
1 book case, 4½ feet high.....	10.00
1 file case, 15 inches high.....	5.00
1 file case in vault.....	3.00
2 show cases with glass top, \$60.....	120.00
6 autograph cases, \$300.....	1,800.00
1 railing	10.00
3 dining room tables, \$20.....	60.00
1 oak table, 6 feet.....	30.00
3 kitchen tables, \$1.....	3.00
1 stand for letter press.....	1.00
1 letter press.....	5.00
1 typewriter, new.....	90.00
1 typewriter, new, with desk.....	110.00
1 clock.....	10.00
1 mirror, 18x12.....	1.50
1 round table	1.00
1 portable lamp.....	5.00
1 book rack.....	5.00
1 dictionary and stand.....	15.00
1 revolving chair.....	6.00
1 revolving chair, cane	5.00
1 carved chair	50.00
1 arm chair	15.00
6 small chairs, \$10 each	60.00
7 office stools, 75 cents each	5.25
2 chairs, upholstered, \$10 each.....	20.00
1 sofa, upholstered.....	30.00
Total	3,310.75

DAIRY COMMISSION, INCLUDING TESTING ROOM.

1 oak desk, with file case	\$ 75.00
1 table, walnut, 5 feet.....	15.00
1 table, oak, 8 feet.....	20.00
1 table, dining-room	20.00
1 table, kitchen.....	1.00
4 tables, square, \$10 each	40.00
7 tables, square, \$1.25 each.....	8.75
1 typewriter with desk, in use four years.....	90.00
1 desk	2.00
1 plush sofa.....	50.00

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STATE LIBRARY.

1 scale with case	\$ 25.00
1 clock..	2.00
1 portable lamp	5.00
1 letter press.....	7.50
1 book case.	15 00
1 dictionary with stand.....	12.00
1 pigeonhole case.....	2.00
1 oak partition with shelves	30.00
1 revolving chair	20.00
1 arm chair	15.00
2 small chairs, \$10 each.....	20 00
7 cane chairs, \$3 each	21 00
2 chairs, 50 cents each.....	1.00
1 microscope	25.00
1 door curtain	10.00
2 testing machines	25.00
1 coal oil stove.....	1.00
Total	\$ 158.25

PHARMACY COMMISSION.

1 oak desk, flat top	\$ 75.00
1 typewriter, with desk, in use 5 years.....	90.00
1 dining room table	20.00
1 walnut table, 4½ feet	10.00
1 walnut table, 4 feet	10.00
1 kitchen table.....	1.00
8 square tables, \$1.25 each	10 00
1 duplicator... ..	50.00
1 stand for letter press.....	1 00
1 letter press.....	5 00
1 cane settee... ..	5 00
1 desk from old state house	1.00
1 revolving chair	20 00
1 small chair.....	10 00
7 cane chairs, \$3 each ..	21.00
2 chairs, 50 cents each.....	1 00
13 chairs, camp, 60 cents each.....	7.80
1 clock.....	5.00
1 dictionary and stand.....	12 00
1 portable lamp.....	5.00
1 mirror, 20x15.....	4 00
1 pigeonhole case.....	3.00
Total	266.80

LAND OFFICE.

1 cherry table, 6 feet.....	\$ 40.00
1 cherry desk, flat top,	100.00
1 cherry desk, standing.....	125.00
1 walnut desk	6 00
1 desk from old state house	2.00
1 round table	4 00
1 adjustable book stand	10.00
1 plush settee.....	50.00
2 revolving chairs, \$20 each.....	40.00
1 table for letter press.....	2.00
1 letter press.....	6.00
1 portable lamp.....	5.00
1 scale	2.00
4 arm chairs, \$15 each	60.00
6 small chairs, \$10 each.....	60.00
1 wash stand.....	1.00
1 mirror	1 00
1 clock.....	5.00
Total	519.00

GEOLOGICAL SURVEY—THREE ROOMS.

1 desk, walnut, rolling top.....	\$	25.00
1 desk, double, flat top.....		25.00
2 desks, flat top, one not in the home office.....		24.00
1 typewriter with desk, in use four years.		50.00
1 drawing table.....		40.00
5 tables, dining-room, \$20 each		100.00
1 oak table, 4 feet.....		10.00
1 portable lamp.....		3.00
1 revolving chair		1.00
1 office stool		1.00
5 walnut arm chairs, \$15 each		75.00
3 dining-room chairs, \$2.50 each.....		7.50
1 adjustable book stand		10.00
1 letter press.....		8.00
1 dictionary and stand.....		12.00
1 stand		1.00
1 shelf, \$1; 1 pigeonhole case, \$1.50.....		2.50
1 mirror, 20x12, \$1; 1 drafting table, \$5.....		6.00
1 mineral case, 28 feet.....		280.00
3 wall frames for pictures, \$25 each.....		70.00
3 specimen cases, \$100 each.....		300.00
2 cases, for books and supplies, \$40 each.....		80.00
1 microscope.		125.00
2 barometers, \$50 each.....		100.00
3 cameras.....		175.00
Total.....	\$	1,531.00

GRAND ARMY ROOM.

1 counter, 12 feet long.....	\$	95.00
1 desk, 10 feet long.....		60.00
1 book case, 12 feet		75.00
1 wall case for banner.....		30.00
1 wardrobe.....		30.00
1 double desk.....		150.00
1 single desk.....		54.00
1 table, 8 feet, mahogany....		80.00
1 table, 5 feet, mahogany.....		48.00
2 revolving chairs, mahogany, \$36 each.....		72.00
10 chairs, mahogany, \$19.44 each.....		194.40
1 lounge, leather.....		60.00
1 mirror, 38x18.....		10.00
1 portable lamp.....		5.00
2 dining-room chairs, \$2.50 each.....		5.00
Total.....		968.40

SUPPLY DEPARTMENT—THREE ROOMS.

2 tables, 6 feet, \$40 each.....	\$	80.00
1 dining-room table.....		20.00
1 square table		15.00
1 oak table		8.00
1 table, in the east storeroom.....		4.00
1 typewriter desk.....		5.00
2 portable lamps, \$5 each.....		10.00
1 Shannon file case.....		10.00
2 dictionaries with stands, \$12 each.....		24.00
1 revolving book case		12.00
1 walnut desk.....		25.00
1 adjustable book stand.....		10.00
1 clock		2.50
paper tester.....		75.00
1 case for drawings.....		15.00

3 revolving chairs, \$20 each.....	\$	60.00
1 revolving chair, upholstered....		8.00
5 arm chairs, \$15 each		75.00
3 small chairs, \$10 each.....		30.00
1 typewriter.....		20.00
1 mirror, 40x15		5.00
1 mirror, 30x15		3.00
Total.....	\$	526.50

DOCUMENT AND PACKING ROOM—THREE ROOMS.

1 desk, walnut, flat top	\$	8.00
1 desk top....		3.00
1 desk with book case		12.00
1 24 foot table with two cases		30.00
5 dining-room tables, \$20 each		100.00
1 packing table.....		3.00
1 small shelf case.....		1.50
2 double shelf cases, 6 feet, \$4 each.....		8.00
1 portable lamp		5.00
1 revolving chair.....		3.00
6 dining room chairs, \$2.50 each.....		15.00
3 chairs, 50 cents each.....		1.50
1 oak arm chair.....		15.00
1 folding table, 40x22.....		2.00
1 truck scale.....		10.00
2 counter scales, 1 at \$3 and 1 at \$1.50.....		4.50
1 truck, four wheels		50.00
1 truck, two wheels		15.00
1 truck, two wheels.....		10.00
Total.....		296.50

LABOR COMMISSION.

2 book cases, glass front, \$15 each.....	\$	30.00
1 book case		10.00
1 pigeonhole case.....		10.00
1 standing desk		3.00
1 case with drawers.....		5.00
1 double desk, flat top		15.00
1 walnut table, 8 feet		3.00
1 kitchen table.....		1.00
1 typewriter with desk, in use five years.....		60.00
2 revolving chairs, \$20 each.....		40.00
6 cane chairs, \$3 each		18.00
1 stand for letter press		8.00
1 letter press		7.00
1 wash stand		6.00
1 office stool		1.00
1 dictionary and stand.....		12.00
1 mirror, 22x16.....		2.50
Total.....		226.

MINE INSPECTOR—ONE ROOM (THIRD DISTRICT).

3 book-cases; 2 with glass front, \$15 each.....	\$	45.00
1 double desk, flat top.....		20.00
1 oak desk		20.00
1 oak table		10.00
1 square table		10.00
1 stand for letter press.....		3.00
1 letter press.....		7.50
1 dictionary with stand.....		12.00
1 cane settee.....		5.00
4 cane chairs, \$3 each		12.00

8 revolving chairs, \$20 each.....	\$ 80 00	
1 arm chair	15.00	
1 camp chair .....	.60	
1 portable lamp	5.00	
1 test scale with case and 2 50-pound test weights	125.00	
1 case for samples	30 00	
1 washstand, marble top	8.00	
1 mirror, 28x12 in.....	2.00	
1 anemometer..	20.00	
1 clock.....	2.00	
1 case for maps	3.00	
Total.....		\$ 415.10

MINE INSPECTOR—FIRST DISTRICT, OTTUMWA.

1 desk.....	\$ 10.00	
2 anemometers, \$20 each	40.00	
1 scale and 2 50-pound test weights	100.00	
1 water gauge.....	15.00	
1 hydrometer.	15.00	
Total.....		180.00

MINE INSPECTOR—SECOND DISTRICT, OSKALOOSA.

1 desk.....	\$ 10 00	
1 anemometer.....	20.00	
1 scale and 2 test weights.....	100.00	
1 hydrometer.....	15 00	
Total.....		145.00

RECAPITULATION.

Mine inspector, 1st district.....	\$ 180 00	
Mine inspector, 2d district.....	145.00	
Mine inspector, 3d district.....	415.10	
Total.....		740.10

BOARD OF HEALTH—TWO ROOMS AND ONE TEST ROOM.

4 book cases, 1 10 feet, 2 9 feet, 1 8½ feet, \$15 per foot.....	\$ 547 50	
4 book cases, walnut, \$10 each.....	40.00	
1 rack for papers, 8 feet high.....	3.00	
2 walnut desks, 1 rolling top, \$25; 1 flat top, \$20	45.00	
1 oak desk, \$8; 1 standing desk, \$4	12.00	
1 typewriter with desk, in use 6 years	50.00	
2 tables, 8 feet and 9 feet long, \$6 each ..	12.00	
2 tables, 5 feet, \$4 each.....	8.00	
2 tables, 4 feet and 2 feet long, \$2 each.	4.00	
1 table, 6 feet, \$2.50; 1 table 50 cents	3.00	
1 shelf 5 feet wide, \$8; 1 glass case, \$10.....	18.00	
2 revolving book cases, \$8 each.....	24 00	
2 stands for letter press and scales, \$1 each.	2.00	
1 small case, \$3; 1 typewriter desk, \$4	7.00	
1 letter press, \$10; 1 portable lamp, \$6	16.00	
1 scale with case, \$20; 1 scale, \$2	22.00	
1 dictionary with stand, \$12; 1 oil tester, \$5	17.00	
18 cane chairs, \$3 each, \$51; 5 revolving chairs, \$3 each, \$15	69 00	
1 settee, \$6; 4 chairs, 50 cents each, \$2	8.00	
1 office stool, \$1; 1 mirror, \$2.....	3.00	
1 microscope, \$250; 1 incubator, \$12	262.00	
1 clock.....	8.00	
1 sterilizer.	5.00	
1 wash stand.....	3.00	
1 pigeonhole case.	1.00	
Total		1,189.50

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HORTICULTURAL SOCIETY—THREE ROOMS.

1 revolving chair	\$ 20.00	
20 arm chairs, \$15 each	300.00	
8 small chairs, \$10 each	80.00	
4 camp chairs, 60 cents each.....	2.40	
1 portable lamp	5.00	
1 packing table	8.00	
2 double book shelves, 12 feet long, \$10 each.....	20.00	
70 feet of wall shelf cases	50.00	
1 dining-room chair	2.50	
1 square table.....	1.25	
Total		\$ 484.15

ENGINEER'S ROOM.

3 cases, \$3 each.....	\$ 9.00	
2 desks, members G. A., \$1.50 each	3.00	
1 revolving chair	2.00	
1 chair.....	.50	
1 camp chair.....	.60	
2 shelves, \$1 each	2.00	
Total		17.10

CARPENTER SHOP.

1 case	\$ 3.00	
1 case	2.00	
2 chairs, 50 cents each.	1.00	
Total		6.00

BATH ROOM.

1 washstand	\$ 5.00	
2 dining-room chairs, \$2.50 each	5.00	
1 mirror, 27x15 ..	4.00	
Total ..		14.00

CORRIDOR—BASEMENT.

2 sections of drafting table, \$6 each		12.00
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JANITOR'S ROOM AND CLOSET—FIRST FLOOR.

1 mirror, 36x20	\$ 5.00	
1 mirror, 24x15	3.00	
Total		8.00

CORRIDOR AND POSTOFFICE—FIRST FLOOR.

1 counter.....	\$ 25.00	
2 settees, \$15 each.....	30.00	
1 frame for checking baggage.....	2.00	
1 dining-room chair.	2.50	
Total		59.50

JANITOR'S ROOM—BASEMENT.

1 desk from old state house.....	\$ 1.50	
1 chair .....	.50	
Total		2.00

LIBRARY STOREROOM.

1 shelf, 4 feet wide.....	\$ 3.00	
1 cane chair.....	8.00	
2 chairs, 50 cents each.....	1.00	
Total		7.00

FURNITURE BELONGING TO THE STATE OF IOWA BUT IN USE OUTSIDE THE CAPITOL.

1 desk, \$150; 1 desk, \$100; used by Att'y-Gen. Milton Remley... ..	\$ 250.00	
1 bookcase; used by Att'y-Gen. Milton Remley... ..	33.00	
1 typewriter with desk; used by Att'y-Gen. Milton Remley.....	100.00	
1 stand, \$5; 1 letter press, \$10; used by Att'y-Gen. Milton Remley....	15.00	

1 square table, \$1.25; 1 mirror, \$5; used by Att'y-Gen. Milton Remley \$	6.25
1 dictionary and stand; used by Att'y-Gen. Milton Remley	12.00
1 revolving chair; used by Att'y-Gen. Milton Remley.....	20.00
2 arm chairs; used by Att'y-Gen. Milton Remley.....	30.00
5 small chairs; used by Att'y-Gen. Milton Remley	50.00
1 typewriter; used by Judge Granger.....	75.00
1 typewriter; used by Judge Ladd	75.00
1 typewriter; used by Judge Given	75.00
1 typewriter; used by Judge Robinson	75.00
1 typewriter; used by Judge Kinne	75.00
1 typewriter; used by Judge Deemer	85.00
1 desk, \$12; 1 barometer, \$50; at Iowa City.....	62.00
1 camera, at Iowa City	58.33
1 desk, \$10; 2 anemometers, \$40; used by mine inspector, J.A. Campbell	50.00
1 scale, \$100; 1 water gauge, \$15; used by J. A. Campbell.....	115.00
1 hydrometer; used by J. A. Campbell.....	15.00
1 desk, \$10; 1 anemometer, \$90; used by mine inspector, J. W. Miller.	30.00
1 scale, \$100; 1 hydrometer, 15; used by J. W. Miller	115.00

(COPY.)

Inventory of furniture, etc., in the attorney-general's office, Nos. 612-613, Equitable building, West Des Moines, Iowa:

1 flat-top office desk.
 1 roll-top office desk.
 1 8-drawer typewriter cabinet.
 1 Smith Premier typewriter.
 1 letter press stand and letter press.
 5 leather seat and back office chairs.
 2 leather back arm office chairs.
 1 revolving office arm chair.
 1 small stand.
 1 book case consisting of 12 sections of Wernicke's system,
 2 waste baskets.
 2 cuspidors.
 1 water pitcher.
 1 mirror.
 1 thermometer.
 Ink stands, paper weights, letter scales, etc., etc.

BOOKS.

Northwestern Reporters complete, including 2 digests.
 Iowa reports from 1 Morris to 95 Iowa.
 English and American Enc. of Law.
 Statutes of Iowa from the acts of the First General Assembly to the acts of the Twenty-sixth General Assembly, inclusive, except the acts of the regular session of the First General Assembly, and the Fifth General Assembly.
 Code of 1851.
 Revision of 1860.
 McClain's Code of 1888.
 McClain's Digest, 8 volumes.
 1 Webster's International dictionary.
 1 floor rug purchased for office at Equitable building; rug, 9x12.
 1 rug, 8x3.
 1 small rug.
 1 screen.
 1 rug brought from capitol.

The above property in my possession at rooms 612 and 613 Equitable building.

MILTON REMLEY,
 Attorney-General.

December 8, 1897.

(COPY.)

Received from the state of Iowa one Remington typewriter, bought somewhere about the fall of 1896, or spring of 1897.

C. T. GRANGER.

Dated November 30, 1897.

(COPY.)

SHELDON, Iowa, December 26, 1897.

I now have the typewriter (Remington) furnished me by the state of Iowa, at my home in Sheldon, as I am doing most of the work pertaining to my office there

SCOTT M. LADD.

December 26, 1897.

(COPY.)

SIOUX CITY, Iowa, December 4, 1897.

This is to acknowledge that the undersigned holds for the use of the supreme court, one Smith Premier typewriter and typewriter stand, purchased during or about the month of November, 1894, with money furnished by the state of Iowa. Property is held in Sioux City, Iowa.

G. S. ROBINSON,
Judge of Supreme Court.

(COPY.)

November 8, 1897.

Received from the state of Iowa one Smith Premier typewriter, No. 2, for my use as judge of the supreme court of Iowa.

JOSIAH GIVEN,
Judge of Supreme Court.

(COPY.)

December 4, 1897.

MY DEAR SIR—The typewriter I have the state has held my receipt for ever since it was purchased. When my term expires I shall return it and take a receipt for it. Auditor McCarthy has my receipt. Of course the state don't want two receipts for one machine.

Yours,

L. G. KINNE.

[Returned to the Capitol Jan. 3, 1898.]

RED OAK, Iowa, December 6, 1897.

Received from the state of Iowa a Smith Premier typewriter, No. 33347, purchased about the month of July, A. D. 1894, and now used by me at my home office in the preparation of opinions, and other matters connected with my official position.

H. E. DEEMER,
Judge Supreme Court.

DEAR SIR—I hereby submit the following inventory of property belonging to the state of Iowa in this office, except price of same, but you can get that at office there:

- 2 anemometers.
- 1 set standards and 3 50-pound weights.
- 1 water gauge.
- 1 hydrometer.
- 1 desk.

Yours respectfully,

First District, Ottumwa.

JAMES A. CAMPBELL,
Mine Inspector.

Received from the state of Iowa the following furniture, etc.:

1 walnut desk...	\$ 10.00
1 air meter	20.00
1 scale for testing weights, and 2 50-pound test weights.....	100.00
1 hydrometer for testing oils.....	

J. W. MILLER,
Mine Inspector.

Second District, Oskaloosa.

FURNITURE IN THE BUILDING, BUT NOT STATE PROPERTY.

1 typewriter in the governor's room.
1 desk, clerk of supreme court.
1 typewriter and desk, clerk of supreme court.
1 small table, railroad commissioners' storeroom.
1 typewriter and desk. 1 scale, agricultural rooms.
1 revolving book case, 1 show case, agricultural rooms.
1 letter press, 1 duplicator, agricultural rooms.
1 show case for eggs and base, historical collections.
1 letter press. 1 desk and book case, pharmacy commission.
1 table, 1 chair, G. A. R. rooms.
1 typewriter, 1 office stool, G. A. R. rooms.
1 scale, 1 letter press, G. A. R. rooms.
1 stand with letter press, supply department.
1 book case, 14 feet; 1 sample wood case, horticultural rooms.
2 sample cases, 13 feet; 1 walnut desk, horticultural rooms.
2 sample cases, 8 feet; 1 walnut table, horticultural rooms.
1 insect case, 1 typewriter, horticultural rooms.
1 desk, 1 show case, horticultural rooms.
1 show case, corridor first floor.
1 portable lamp, postoffice first floor.

TOTAL VALUE OF FURNITURE IN THE CAPITOL.

29 committee rooms, house and senate, including other rooms on second and third floors.....	\$ 15,926 00
Library, one room.....	1,451.50
Governor, four rooms.	4,325.50
Auditor, four rooms.....	2,646.00
Superintendent of public instruction, three rooms.....	1,642.00
Treasurer, two rooms.....	1,275.50
Adjutant-General, three rooms.....	1,663.00
Attorney-General, one room.....	688.75
Custodian, one room.....	478.50
Clerk supreme court, three rooms.....	1,104.00
Railroad commissioners, three rooms.....	1,029.50
Agricultural, two rooms.....	1,837.50
Judges, six rooms	2,346.00
Consultation, one room.....	508 50
Supreme court, one room.....	2,297.50
Secretary, two rooms.....	1,486.00
Historical, three rooms.....	3,310 75
Dairy, two rooms.....	558.25
Pharmacy, one room.....	366.80
Land office, one room.....	519 00
Geological survey, three rooms.....	1,531 00
G. A. R., one room.....	968.40
Supply department, three rooms ...	526.50
Documents, three rooms.....	296.50
Labor commissioner, one room.....	226.50
Mine inspector, one room.....	740.10
Board of health, three rooms.....	1,189.50
Horticultural, three rooms.....	484 15
Engineer, carpenter.....	23.10

Janitor, first floor and basement.....	\$	10.00
Corridor, first floor and basement		71.50
Bath room.....		14.00
Library storeroom.....		7.00
Total.....	\$	51,049.40

RECAPITULATION.

3 desks, \$200 each.....	\$	900.00	
1 desk.....		250.00	
1 desk.....		240.00	
2 desks, \$200		400.00	
1 desk.....		180.00	
1 desk.....		160.00	
9 desks, \$150 each.....	1,350.00		
1 desk.....	140.00		
10 desks, \$125 each.....	1,250.00		
1 desk.....	120.00		
1 desk.....	112.50		
9 desks, \$100 each.....	900.00		
4 desks, \$75 each	300.00		
4 desks, \$60 each.....	240.00		
1 desk.....	54.00		
2 desks, \$50 each.....	100.00		
2 desks, \$40 each.....	80.00		
2 desks, \$38 each.....	76.00		
1 desk.....	35.00		
1 desk.....	30.00		
4 desks, \$25 each.	100.00		
5 desks, \$20 each.....	100.00		
2 desks, \$15 each.....	30.00		
4 desks, \$12 each.....	48.00		
7 desks, \$10 each.....	70.00		
2 desks, \$8 each.....	16.00		
2 desks, \$6 each.....	12.00		
4 desks, \$5 each.....	20.00		
2 desks, \$4 each....	8.00		
2 desks, \$3 each.....	6.00		
7 desks, \$2 each.....	14.00		
4 desks, \$1.50 each	6.00		
4 desks, \$1 each.....	4.00		
106 desks.....			7,851.50
1 typewriter.....	\$	120.00	
1 typewriter.....		110.00	
3 typewriters, \$100 each.....		300.00	
4 typewriters, \$90 each.....		360.00	
2 typewriters, \$85 each.....		170.00	
6 typewriters, \$75 each....		450.00	
3 typewriters, \$60 each.....		180.00	
5 typewriters, \$50 each		250.00	
1 typewriter.....		45.00	
1 typewriter.....		30.00	
1 typewriter.....		10.00	
28 typewriters.....			2,025.00
1 chair.....	\$	50.00	
14 chairs, \$45 each.....		630.00	
6 chairs, \$40 each.....		240.00	
2 chairs, \$36 each.....		72.00	
3 chairs, \$35 each.....		105.00	
23 chairs, \$30 each.....		690.00	
77 chairs, \$25 each.....	1,925.00		
250 chairs, \$20 each.....	5,180.00		

10 chairs, \$19.44 each.....	\$ 194.40	
163 chairs, \$15 each.....	2,445.00	
258 chairs, \$10 each.....	3,580.00	
1 chair.....	8.00	
4 chairs, \$7.50 each.....	30.00	
3 chairs, \$6 each.....	18.00	
14 chairs, \$5 each.....	70.00	
260 chairs, \$3 each.....	780.00	
69 chairs, \$2.50 each.....	172.50	
3 chairs, \$2 each.....	6.00	
1 chair.....	1.00	
185 chairs, 60c each.....	111.00	
69 chairs, 50c each.....	34.50	
1,425 chairs.....		\$16,342.40
5 settees and sofas, \$90 each.....	\$ 450.00	
4 settees and sofas, \$80 each.....	320.00	
10 settees and sofas, \$75 each.....	750.00	
10 settees and sofas, \$65 each.....	650.00	
8 settees and sofas, \$60 each.....	480.00	
19 settees and sofas, \$50 each.....	950.00	
1 settee.....	45.00	
1 settee.....	30.00	
12 settees and sofas, \$15 each.....	180.00	
1 settee.....	6.00	
2 settees, \$5 each.....	10.00	
73 settees and sofas.....		3,871.00
2 adjustable seats, \$7.50 each.....	\$ 15.00	
1 adjustable seat.....	5.00	
7 office seats, \$1 each.....	7.00	
7 office seats, 75 cents each.....	5.25	
1 office seat.....	.00	
18 seats and stools.....		23.75
20 pairs of curtains, \$150 per pair.....	\$2,000.00	
8 pairs of curtains, \$125 per pair.....	875.00	
7 pairs of curtains, \$75 per pair.....	525.00	
9 pairs of curtains, \$50 per pair.....	450.00	
12½ pairs of curtains, \$40 per pair.....	500.00	
7 pairs of curtains, \$25 per pair.....	175.00	
1 pair of curtains.....	15.00	
1 pair of curtains.....	10.00	
1 pair of curtains.....	5.00	
61½ pairs of curtains.....		5,655.00
1 table.....	\$ 200.00	
1 table.....	150.00	
1 table.....	80.00	
4 tables, \$65 each.....	260.00	
10 tables, \$60 each.....	600.00	
17 tables, \$50 each.....	850.00	
1 table.....	45.00	
31 tables, \$45 each.....	1,240.00	
10 tables, \$30 each.....	300.00	
8 tables, \$25 each.....	200.00	
34 tables, \$20 each.....	680.00	
5 tables, \$15 each.....	75.00	
22 tables, \$10 each.....	220.00	
3 tables, \$8 each.....	24.00	
4 tables, \$6 each.....	24.00	
4 tables, \$5 each.....	20.00	
7 tables, \$4 each.....	28.00	

6 tables, \$3 each	\$ 18.00	
1 table, \$2.50	2.50	
7 tables, \$2 each	14.00	
16 tables, \$1.25 each	20.00	
26 tables, \$1 each	26.00	
1 table .....	.50	
231 tables		\$ 5,140.00
1 mirror	\$ 20.00	
2 mirrors, \$10 each	20.00	
1 mirror	6.00	
4 mirrors, \$5 each	20.00	
2 mirrors, \$4 each	8.00	
4 mirrors, \$3 each	12.00	
1 mirror	2.50	
9 mirrors, \$2 each	18.00	
5 mirrors, \$1.50 each	7.50	
3 mirrors, \$1 each	3.00	
32 mirrors		117.00
1 scale	\$ 125.00	
2 scales, \$100 each	200.00	
1 scale	25.00	
1 scale	20.00	
1 scale	10.00	
1 scale	8.00	
7 scales, \$2 each	14.00	
1 scale	1.50	
1 scale	1.00	
16 scales		399.50
4 letter presses, \$15 each	\$ 60.00	
2 letter presses, \$12.50 each	25.00	
3 letter presses, \$10 each	30.00	
2 letter presses, \$8 each	16.00	
2 letter presses, \$7.50 each	15.00	
2 letter presses, \$7 each	14.00	
2 letter presses, \$6 each	12.00	
3 letter presses, 5 each	15.00	
20 letter presses		187.00
1 clock	\$ 10.00	
1 clock	8.00	
1 clock	6.00	
2 clocks, \$5 each	10.00	
1 clock	2.50	
2 clocks, \$3 each	6.00	
1 clock	1.00	
10 clocks		43.50
1 portable lamp	\$ 6.00	
21 portable lamps, \$5 each	105.00	
1 portable lamp	4.00	
1 portable lamp	3.00	
24 portable lamps		
3 revolving book cases, \$15 each	\$ 45.00	
15 revolving book cases, \$12 each	180.00	
4 revolving book cases, \$8 each	32.00	
2 revolving book cases, \$7 each	14.00	
24 revolving book cases		271.00

1 dictionary and stand.....	\$ 15.00	
2 dictionaries and stands, \$14 each.....	28.00	
15 dictionaries and stands, \$12 each.....	180.00	
18 dictionaries and stands.....		\$ 223.00
1 stand	\$ 20.00	
7 stands, \$10 each.....	70.00	
1 stand	8.00	
1 stand	6.00	
4 stands, \$5 each.....	20.00	
2 stands, \$4 each.	8.00	
4 stands, \$3 each.	12.00	
3 stands, \$2 each.	6.00	
1 stand	1.50	
4 stands, \$1 each.	4.00	
1 stand	1.25	
29 stands		156.75
1 case.....	\$ 400.00	
6 cases, \$300 each	1,800.00	
1 case.....	287.00	
1 case.....	280.00	
1 case.....	150.00	
2 cases, \$135 each	270.00	
5 cases, \$132 each	660.00	
1 case.....	127.50	
2 cases, \$112.50 each	225.00	
5 cases, \$110 each	550.00	
8 cases, \$100 each	800.00	
3 cases, \$75 each	225.00	
2 cases, \$60 each	120.00	
1 case.....	50.00	
3 cases, \$40 each	120.00	
3 cases, \$35 each	105.00	
1 case.....	33.00	
4 cases, \$30 each	120.00	
2 cases, \$25 each	50.00	
2 cases, \$20 each	40.00	
9 cases, \$15 each	135.00	
13 cases, \$10 each	130.00	
1 case.	8.00	
5 cases, \$5 each	25.00	
2 cases, \$4 each	8.00	
10 cases, \$3 each	30.00	
5 cases, \$2 each	10.00	
2 cases, \$1.50 each	3.00	
4 cases, \$1 each	4.00	
2 cases, 75 cents each	1.50	
2 cases, 50 cents each.....	1.00	
110 cases.....		6,773 50

MISCELLANEOUS.

2 milk testing machines	\$ 25.00
1 oil stove	1.00
1 incubator	12.00
1 sterilizer.....	5.00
2 hydrometers, \$15.....	30.00
1 water gauge.....	15.00
5 anemometers, \$20	100.00
1 engineer's level.....	100.00
1 rifle.....	30.00
2 rifles, \$18.....	36.00
2 revolvers, \$15.....	30.00

IOWA SOLDIERS' AND SAILORS' MONUMENT.

400

2 revolvers, \$12.....	\$	24.00
4 mail boxes, \$5		20.00
3 bank punches, \$25		50.00
1 adding machine.....		50.00
1 duplicator.....		50.00
1 truck.		50.00
1 truck.....		15.00
1 truck.....		10.00
1 paper tester.....		75.00
1 microscope.....		250.00
1 microscope.....		125.00
1 microscope.....		25.00
2 barometers.....		100.00
3 cameras.....		175.00
1 piano.....		250.00
1 bench. ....		.50
1 railing.....		10.00
1 oak partition.....		30.00
1 wardrobe.....		30.00
2 wardrobes, \$6.....		12.00
1 wardrobe.....		13.00
1 counter.....		95.00
1 counter.....		25.00
1 book rack.....		5.00
6 book racks, \$3.....		18.00
1 oil tester.....		5.00
1 baggage rack.....		2.00
1 newspaper rack.....		3.00
6 folding beds, \$100.		600.00
5 dressers, \$50.....		250.00
1 dresser.....		45.00
70 feet shelving.....		50.00
2 shelves, \$10.....		20.00
1 shelf.....		8.00
2 shelves, \$6.....		12.00
1 shelf.....		3.00
3 shelves, \$1.....		3.00
Total.....	\$	2,892.50

TOTAL VALUE OF FURNITURE IN THE CAPITOL.

106 desks.	\$	7,351.50
28 typewriting machines.....		2,025.00
1435 chairs.....		16,342.40
73 sofas and settees.....		3,871.00
18 adjustable seats and office stools.....		32.75
61½ window and door curtains.....		5,055.00
221 tables.....		5,140.00
22 mirrors		117.00
16 scales.....		399.50
20 letter presses		187.00
10 clocks.....		43.50
34 portable lamps.....		168.00
24 revolving book cases.....		271.00
18 dictionaries and stands.....		223.00
20 washstands and stands for books and presses.....		156.75
110 book and pigeonhole cases		6,773.50
Miscellaneous		2,892.50
Total.....	\$	51,049.40

F. M. Drake.

THIRD BIENNIAL REPORT

OF THE

HISTORICAL DEPARTMENT

OF IOWA.

Made to the Trustees of the State Library,

NOVEMBER 1, 1897.

BY CHARLES ALDRICH,

Curator and Secretary.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

**DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.**

HISTORICAL DEPARTMENT OF IOWA.

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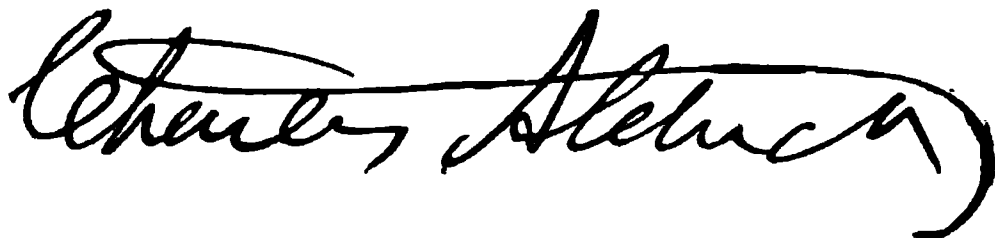
LETTER OF TRANSMITTAL.

STATE HISTORICAL DEPARTMENT, }
DES MOINES, Iowa, November 1, 1897. }

To the Honorable Board of Trustees:

GENTLEMEN—In pursuance of the requirements of section 2875 of the Code of 1897, I have the honor to transmit herewith the third biennial report of the Historical Department.

Very respectfully yours,

A handwritten signature in cursive script, reading "Charles Albrecht". The signature is written in dark ink and is positioned above the printed name of the signatory.

Curator and Secretary.

INTRODUCTION.

The work of the Historical Department has proceeded since the last report on the same lines marked out at its inception in 1892. This introductory note must, therefore, be to some extent a repetition of what has been set forth heretofore. Accessions have continued in the following directions:

First.—Works containing the data of state history, as files of Iowa newspapers and magazines, early territorial and state laws and documents, works of state and western history and biography, county histories, the publications of our religious bodies and educational institutions, and miscellaneous pamphlets.

Second.—Publications of neighboring states on similar lines, so far as it has been practicable to secure them in the way of exchange.

Third.—Official, state, national and general publications relating to the slavery question and the war for the Union.

Fourth.—Works relating to the Indian tribes of North America, but more especially to those in the valleys of the Mississippi and its tributaries.

Fifth.—The publications of the United States census bureau from the foundation of the government, almanacs and other statistical works.

Sixth.—Works of American history and biography.

Seventh.—Museum materials.

Eighth.—Manuscripts, autograph letters and portraits—an extension of “The Aldrich Collection,” the original gift upon which the Historical Department was founded.

IOWA NEWSPAPERS.

Without doubt the constantly increasing files of Iowa newspapers are the most valuable feature of this work. They not

only present the amplest record of passing events—which in time becomes history—but many of our enterprising journalists are systematically gathering up and publishing facts, details and narratives relating to the early history of their localities. This work has received a great impetus during the past two years, and the materials thus saved for historical purposes cannot but possess the highest value. They can be gleaned from no other sources. Embarrassment has arisen from the fact that this work was commenced at so recent a date that but few of our early newspapers could be readily secured. To some extent this is being obviated by the fact that the Department is occasionally obtaining gifts of files or volumes of public journals dating from our pioneer days. It is confidently believed that in this direction we shall receive many accessions hereafter, as more and more of these publications now hidden away come to light. I am not without hope that the state will yet become the owner of newspaper files running back to the beginning, though they will necessarily be made up of scattered materials. It is not probable that continuous files are anywhere in existence. The recent gift of thirty volumes of Iowa newspapers, dating from 1838 to 1864, by Hon. Theodore S. Parvin, is an instance in point, and a welcome and most valuable addition to the resources of the Department, while several single volumes have been acquired from other parties. These sources of information are deemed so important that a full list of our newspaper files is presented in the following pages. It is a rule of the Department promptly to render all practicable assistance to journalists throughout the state in supplying information from our newspaper files for publication in their columns.

EXCHANGES.

The Department is now profiting largely by exchanging its publications for those of the historical organizations of other states, especially in the west. The publications thus acquired not only for the most part possess great historical value, but they are published in limited editions and must be obtained at once, for the opportunity of acquiring them rarely comes a second time. Applications in a few instances have been made to the Department by western historical societies for such of the official publications of the state as are on hand for distribution. These requests, by permission of the secretary of state, have been honored, with the result that the Department has thereby been able to secure like favors in return.

SLAVERY AND WAR PUBLICATIONS.

The Department has acquired many of the most important publications of the times which relate to slavery and the war for the Union—those of the general government through the courtesy of the late U. S. Senator James F. Wilson, U. S. Senator William B. Allison and Representative J. A. T. Hull. Others have been purchased from time to time.

WORKS ON THE INDIANS.

Many important additions to this branch of American and western history have been made since the last report. These comprise most of the "Fergus Series," the publications of the "Indian Rights Association," and miscellaneous works. Among the latter is a fine folio copy of McKenny and Hall's "Indian Tribes of North America." (Philadelphia, 1838-44.) This last is a most valuable acquisition, from the fact that it contains many portraits of celebrated Iowa Indians. These portraits, colored by hand, were vouched for by the distinguished authors of this work as correct likenesses. This Indian collection is believed to be the best in the state, and one of the best in the west.

WORKS ON THE CENSUS.

The Department has a very nearly complete set of the census publications of the general and state governments. The first named, date from the year 1790 until the present time; the latter, from 1836.

HISTORY, BIOGRAPHY AND GENEALOGY.

So far as practicable additions in these directions have continued to be made to the resources of the Department. While little money has been expended, it has been a constant thought to use it judiciously in the purchase of works of permanent value. Most recent accessions have come to light in the catalogues of dealers in second-hand books, which otherwise would be most difficult to obtain.

THE MUSEUM.

The space occupied by the museum collections has become so crowded that further additions cannot be exhibited to advantage. Large private collections in different parts of the state have been offered to the Department as gifts, upon the one

condition that they shall be provided with cases or space for their proper exhibition. In value the aggregate must be many thousands of dollars. In many directions—especially in archæology—these objects are highly valuable as illustrating a phase of the earliest history of our state. They should be received and carefully treasured. Like proffers of museum materials have been received from collections made under authority of the general government. It is certain that both the museum and art collections of the state will be rapidly increased as soon as they can be properly taken care of. This branch of the work of the Department is especially worthy of the fostering care of the state from the fact that it so deeply interests the people at large.

THE AUTOGRAPH COLLECTION.

This now fills six large cases, two of which were supplied by the capitol commissioners, in 1884-6, and the others from the funds of the Department since 1892. Several manuscripts too bulky to be placed in the cases have been put into fine bindings. Materials for this collection have accumulated far in excess of these provisions for their care, and two additional cases are needed for their proper preservation. In regard to this collection it is but just to state that while it attracts much attention from visitors, it is a work of great utility in furnishing historical portraits and other materials for the illustration of books, magazines and newspapers. The Iowa cases will always be deemed of especial value from the great amount of material they contain relating to the history of our own state. This can be found nowhere else.

LIBRARY WORK—CARD CATALOGUE.

Since the last report a card catalogue has been commenced and carried forward as far as practicable. The assistants in charge of this work have had various other duties to perform, but very satisfactory progress has been made. In addition to the work on historical books, documents, pamphlets, and the autograph collection, something has been done in cataloguing the principal contents of *The Des Moines Register* and *Des Moines Leader*. It is hoped to continue the work on the newspapers until it embraces at least the present leading journals of the state, as well as those of earlier days. That which has been accomplished, however, is but a small part of what remains to be done—and which is constantly increasing with fresh accessions.

THE ANNALS OF IOWA

The publication of this quarterly magazine of Iowa history and biography has been continued to the present time. While its subscription list has not been large, it is believed to be serving an admirable purpose—aside from the permanent historical value of its contents—in bringing to the department, as exchanges, Iowa newspapers and other publications, as well as reports and periodicals published in other states and countries. Requests for this work have come from several Canadian and European historical and scientific associations, and from the University of Tokio, Japan. Looking to the interests of the Department, there is no doubt that this is a work of very great utility. It has been sent free to all Iowa public libraries, by permission of the board of trustees

OIL PAINTINGS.

It has been one of the aims of the Historical Department to secure fine oil portraits of distinguished Iowans, more especially of the pioneers who have passed away. The following is a list of those thus far acquired:

Governors Samuel J. Kirkwood (ordered and paid for by an act of the General Assembly) and Cyrus C. Carpenter; United States Senators George W. Jones, William B. Allison, and James F. Wilson; Chief Justices Charles Mason, Joseph Williams, George G. Wright, Joseph M. Beck, John F. Dillon, William H. Seevers, and Joseph R. Reed; Associate Justice George Greene; Samuel F. Miller, Justice of the United States Supreme Court; James Grant, Judge of the District Court; Rt. Rev. Henry W. Lee, P. E. Bishop of Iowa; John A. Kasson, statesman and diplomat; Generals G. M. Dodge, James A. Williamson, and Cyrus Bussey; Hiram Price, Representative in Congress and Commissioner of Indian Affairs; Edwin Manning, distinguished pioneer of Van Buren county; Jesse Williams, first Territorial Auditor; Lorenzo S. Coffin, pioneer of Webster county and Railroad Commissioner, and Dr. William F. Peck, the distinguished Iowa surgeon. A fine copy of Stuart's "Washington" has been on exhibition at the head of the grand staircase of the capitol for the last two years, the owner hoping that it might be purchased by the legislature. The portrait of Senator Allison is also a loan by the distinguished artist, W. E. Marshall, who painted it. With the exceptions noted all these portraits are gifts to the Department. Alex-

ander P. A. Healy, the illustrious American artist, in response to a request for his photograph, sent a fine and very valuable portrait in oil, painted by himself. Several others have been promised and will be secured during the coming year. It would seem that the state should become the owner of creditable oil portraits of all our governors, as well as of other distinguished men of the past, but up to this time no provision looking to their acquisition has been made. At the semi-centennial at the city of Burlington, in 1896, most of the above portraits were first exhibited together, in the great auditorium, where they attracted much attention.

HISTORICAL BUILDING.

The last legislature appropriated for the erection of this proposed edifice the sum of \$25,000, placing the work under the direction of the Executive Council. Propositions for the sale of the necessary real estate were solicited from parties owning lots fronting on the capitol grounds, resulting in the purchase of a tract at the northwest corner of Eleventh street and Capitol Avenue, 100x140 feet, more particularly described as "Lots one (1) and two (2), in block seven (7) of Scott's Addition to the town of Des Moines, now a part of the city of Des Moines." These lots are so situated that the building can be heated at slight expense by an extension of the system of pipes now in the capitol. They are especially adapted to the purpose for which they were purchased, and were secured at a price far below that of any other desirable property offered. Plans by Mr. O. O. Smith, architect, of Des Moines, were selected from several which were offered in competition. Upon advertising for bids for the construction of the edifice, it was found that with two exceptions, they were largely in excess of the amount of money available for the work. The two bids which came within the limit prescribed were for a style of work so inferior to the general expectation, that it was wisely determined by the Council to refer the whole matter again to the legislature, in the hope that sufficient means may be provided for a creditable fireproof edifice. There is no doubt that, with proper space for its growth, the gifts to the Department will every year exceed the cost of the building. A further word may be permissible in regard to the income of the Department. For its efficient administration the annual appropriation ought, in my judgment, to be increased \$4,000.

This will provide for the necessary furniture, salaries of the curator and assistants, and the purchase of such works as may be authorized by the board of trustees. Its justification, judging from the past, rests upon the fact that the Department should, and undoubtedly will, be able to secure gifts worth many times that amount, saying nothing of their ever-increasing historical value.

ACKNOWLEDGMENTS.

I wish to tender to the Board of Trustees my sincere thanks for the uniform kindness, encouragement and support, which I have ever experienced at their hands, as well as for the cordial manner in which they have seconded every effort to make the Historical Department of the highest possible value to the State.

Of my immediate helpers—Miss Mary Whitcomb, my assistant in the work of cataloguing, who has also kept the accounts; Mrs. Katherine Carden, stenographer and typewriter, in charge of receiving and arranging the newspaper files, and Mr. D. W. Johnson, messenger—it is but justice to say that they have discharged their several duties with rare faithfulness and efficiency.

Truly yours
Ralph P. Lowe

RALPH PHILLIPS LOWE.

1805-1883.

Pioneer Law Maker. Governor and Chief Justice.

BOUND VOLUMES OF NEWSPAPERS.

The following is a complete list of bound volumes of newspapers belonging to the Historical Department at the date of this report. A hundred or more volumes will soon go to the binder.

IOWA.

ADAIR COUNTY.

Fontanelle Observer, 1884-86; 1887-88; July 1894-Dec. 96.

ADAMS COUNTY.

Adams County Free Press, May 1893-Dec. 96.

Adams County Union, 1893-94; 1895-96.

ALLAMAKEE COUNTY.

Allamakee Journal, Apr. 1893-Dec. 94.

Waukon Standard, 1885-86; 1888-90; 1892-94.

APPANOOSE COUNTY.

Centerville Citizen, 1883-85; 1886-88; Apr. 1893-Dec. 96.

Centerville Journal, Oct. 1893-Dec. 96.

AUDUBON COUNTY.

Audubon County Journal, June 1893-Dec. 96.

Audubon Republican, 1894-96.

Audubon Times, 1883-86.

BENTON COUNTY.

Belle Plaine Independent, 1883-85.

Benton County Herald, 1878-79; 1880-81; 1882.

Vinton Eagle, 1855-Feb. 56; 1893-94; 1895-96.

BLACK HAWK COUNTY.

Cedar Falls Gazette, Oct. 1893-Dec. 94; 1895.

Waterloo Reporter, 1871; 1872; 1874; 1875; 1876; 1877; 1878; 1879; 1881; 1882; 1883; 1884; 1885; 1886; 1888; 1889; 1890; 1891; 1892; 1893-95.

BOONE COUNTY.

Boone Democrat, 1868-71; 1872-76; 1877-81; 1882-85; 1886-89; 1893-94.
Boone News, 1895-96.
Boone Republican, 1883-84; 1885; 1886-88; 1890-91; 1892-94; 1895-96.
Boone Standard, 1867; 1868; 1869; 1870-72; 1873-74; 1875; 1877; 1878; 1879-80;
1881; 1882; 1883; 1884; 1885; 1886; 1887; 1893-94.
Boonesboro Index, 1865-67.

BREMER COUNTY.

Bremer County Independent, 1893-95.
Waverly Democrat, 1893-95.

BUCHANAN COUNTY.

Buchanan County Guardian, Aug. 1858-Feb. 60; Mar. 1860-Feb. 63.
Independence Bulletin-Journal, 1883-85; 1886-87; 1888-89; 1890-91; 1892; 1893;
1894; 1895-96.
Independence Conservative, 1883-86; 1887-89; 1890-92; 1893-95.
Quasqueton Guardian, Dec. 1856-July 58.

BUENA VISTA COUNTY.

Alta Advertiser, 1893-96.
Storm Lake Pilot-Tribune, 1895-96.
Storm Lake Tribune, May 1895-Aug. 96.

BUTLER COUNTY.

Butler County Tribune, Apr. 1894-Dec. 96.

CALHOUN COUNTY.

Lake City Graphic, Apr. 1893-Dec. 96.
Lohrville Enterprise, Aug. 1894-Dec. 96.
Rockwell City Advocate, 1891-92; 1893-94.

CARROLL COUNTY.

Carroll Herald, Sept. 1893-Dec. 95.
Carroll Sentinel, July 1893-Dec. 94; 1895.

CASS COUNTY.

Anita Republican, 1894-96.
Atlantic Telegraph, May 1893-Dec. 94; 1895-96.

CEDAR COUNTY.

Tipton Advertiser, May 1863-Dec. 64; 1883-86; 1887-89; 1890-92; 1893-94.
West Branch Times, 1890; 1893-94.

CERRO GORDO COUNTY.

Cerro Gordo Republican, 1892; 1893-94.
Clear Lake Mirror, June 1893-Dec. 94; 1895-96.

CHEROKEE COUNTY.

Cherokee Times, 1886-88; 1890-92; 1893-94; 1895-96.

CHICKASAW COUNTY.

Nashua Post, 1894-96.
New Hampton Tribune, June 1893-Dec. 96.

CLARKE COUNTY.

Osceola Sentinel, 1893-94.

CLAY COUNTY.

Clay County News, 1884-85; 1894-96.

Spencer Herald, 1893-94; 1895-96.

Spencer Reporter, 1883-85; 1886-88; 1889; 1890-92; 1893-94; 1895-96.

CLAYTON COUNTY.

Clayton County Journal, 1885-87.

Elkader Register, 1891-92; 1893-94; 1895-96.

McGregor News, 1893-94.

CLINTON COUNTY.

Clinton Age, May 1893-Dec. 94; 1895-96.

De Witt Observer, 1888-90.

Lyons Mirror, 1892-94.

Wheatland Gazette, May 1894-Dec. 96.

CRAWFORD COUNTY.

Denison Bulletin, Mar. 1894-Dec. 96.

Denison Review, 1873-74; 1883-85; 1886-90; May 1893-Dec. 94; 1895-96.

DALLAS COUNTY.

Dallas County Democrat, 1893-94.

Perry Advertiser, 1886-88; 1889-92; 1893-94; 1895-96.

DAVIS COUNTY.

Bloomfield Democrat, June 1893-Dec. 96.

Davis County Republican, 1883-85; 1886-88; May 1893-Dec. 96.

DECATUR COUNTY.

Decatur County Journal, May 1883-Dec. 86; 1887-89; 1890-91; 1892-93;
Apr. 1894-Dec. 96.

Garden Grove Express, May 1894-Dec. 96.

Leon Reporter, 1894-96.

Saints' Herald, 1893-94.

DELAWARE COUNTY.

Hopkinton Leader, Mar. 1894-Dec. 96.

Manchester Democrat, 1894-96.

Manchester Press, 1890; 1893-94.

DES MOINES COUNTY.

Burlington Gazette, 1875; 1876; 1877; 1878; 1879; 1880; 1881; 1882; 1893-94;
1895-96.

Burlington Hawkeye, Jan.-May 1874; June-Dec. 1874; Jan.-June 1875;
July-Dec. 1875; Jan.-June 1876; July-Dec. 1876; Jan.-June 1877; July-
Dec. 1877; Jan.-June 1878; July-Dec. 1878; Jan.-May 1879; June-Dec.
1879; May-Dec. 1880; May-Dec. 1881; Jan.-Sept. 1882; Sept.-Dec. 1882;
Mar.-May 1883; June-Aug. 1883; Sept.-Dec. 1883; Mar. 1883-Apr. 84;
Jan.-Sept. 1884; Oct.-Dec. 1889; Jan.-Apr. 1890; May-Aug. 1890; Sept.-

Dec. 1890; Jan.-Apr. 1891; May-Aug. 1891; Sept.-Dec. 1891; Jan.-Apr. 1892; May-Aug. 1892; Sept.-Dec. 1892; Jan.-May 1893; June-Sept. 1893; Oct.-Dec. 1893; Jan.-Apr. 1894; May-Aug. 1894; Sept.-Dec. 1894; Jan.-Apr. 1895; May-Aug. 1895; Sept.-Dec. 1895; Jan.-Apr. 1896; May-Aug. 1896; Sept.-Dec. 1896.

ington Post, 1884-86; 1887-88; 1892-93; 1894; 1895-96.

DICKINSON COUNTY.

rd Mail, 1884; 1886-87; 1889-91; 1893-96.

t Lake Beacon, 1884-86.

DUBUQUE COUNTY.

que Express and Herald, Oct. 1854-Apr. 55; May-Sept. 1855; May-Dec. 1856; Oct. 1855-May 56; Oct. 1856-Mar. 57; Apr.-Sept. 1857; Oct. 1857-Apr. 58; May-Oct. 1858; Oct.-Dec. 1858; Jan.-June 1859; July-Dec. 1859; que weekly Express and Herald, 1858.

que Herald, Jan.-June 1853; Jan.-May 1854; June-Oct. 1854; Jan.-June 1861; Jan.-June 1862; July-Dec. 1862; July-Dec. 1863; Jan.-June 1864; July-Dec. 1864; Jan.-June 1865; July-Dec. 1865; Jan.-June, 1866; July-Dec. 1866; Jan.-June 1867; July-Dec. 1867; Jan.-June 1868; July-Dec. 1868; Jan.-June 1869; July-Dec. 1869; Jan.-June 1870; July-Dec. 1870; Jan.-June 1871; July-Dec. 1871; Jan.-June 1872; July-Dec. 1872; Jan.-June 1873; July-Dec. 1873; Jan.-June, 1874; July-Dec. 1874; Jan.-June, 1875; July-Dec. 1875; Jan.-June 1876; July-Dec. 1876; Jan.-June 1877; July-Dec. 1877; Jan.-June 1878; July-Dec. 1878; Jan.-June 1879; July-Dec. 1879; Jan. June 1880; July-Dec. 1880; Jan.-June 1881; July-Dec. 1881; Jan. June 1882; July Dec. 1882; Jan.-June, 1883; July-Dec. 1883; Jan.-June 1884; July-Dec. 1884; Jan.-June 1885; July-Dec. 1885; Jan.-June 1886; July-Dec. 1886; Jan.-June 1887; July-Dec. 1887; Jan.-June 1888; July-Dec. 1888; Jan.-June 1889; July-Dec. 1889; Jan.-June 1890; July-Dec. 1890; Jan.-June 1891; July-Dec. 1891; Jan. Apr. 1892; May-Aug. 1892; Sept.-Dec. 1892; Jan.-Apr. 1893; May-Aug. 1893; Sept.-Dec. 1893; Jan.-Apr. 1894; May-Aug. 1894; Sept.-Dec. 1894; Jan.-Apr. 1895; May-Aug. 1895; Sept.-Dec. 1895; Jan.-Apr. 1896; May-Aug. 1896; Sept.-Dec. 1896.

que weekly Herald, 1860.

que Miners Express, 1847; 1848-49; 1850; 1851; 1852; 1853; 1854.

que Northwest, July-Dec. 1857; Jan.-May 1858.

que Observer, Nov. 1854-Apr. 55.

que Republican, Nov. 1855-May 56; Jan.-June 1856; July-Dec. 1856; 56-57.

que Telegraph, May-Aug. 1894; Sept.-Dec. 1894; Jan.-Apr. 1895; May-Aug. 1895; Sept.-Dec. 1895; Jan.-Apr. 1896; May-Aug. 1896; Sept.-Dec. 1896.

que Times, June-Dec. 1857; Jan.-June 1858; Jan.-Dec. 1866; July-Dec. 1867; Jan.-June 1878; July-Dec. 1878; Jan.-June 1879; July-Dec. 1879; Jan.-June 1880; July-Dec. 1880.

que weekly Times, Mar.-Dec. 1873.

que Tribune, Jan.-June 1856; July-Dec. 1856; May 1857-Mar. 58.

que Union, Aug.-Dec. 1861.

que Visitor, 1836-38.

Dyersville Commercial, Sept. 1893-Dec. 96.
Farley Advertiser, 1893-96.

EMMET COUNTY.

Eatherville Northern Vindicator, Sept. 1893-Dec. 96.

FAYETTE COUNTY.

Oelwein Register, June 1893-Dec. 96.
West Union Gazette, Mar. 1893-Dec. 94.

FLOYD COUNTY.

Charles City Intelligencer, July 1856-Oct. 58; 1859-61; 1862-64; 1865-67;
1868-Nov. 1870; 1893-94.
Floyd County Advocate, 1894-96.
Rockford Gazette, June 1894-Dec. 96.

FRANKLIN COUNTY.

Franklin County Recorder, 1893-94.

FREMONT COUNTY.

Fremont Democrat, 1893-94.
Sidney Sun, Apr. 1893-Dec. 96.

GREENE COUNTY.

Grand Junction Head-Light, 1870; June 1894-Dec. 95.
Jefferson Bee, 1895-96.
Jefferson Era, Mar. 1871-Jan. 74.
Jefferson Souvenir, 1894-96.

GRUNDY COUNTY.

Grundy Center Herald, Aug. 1893-Dec. 96.
Grundy Center Republican, 1885; 1886; 1887-88; 1893-94; 1895-96.

GUTHRIE COUNTY.

Guthrie, 1883-86; 1887-89; 1890-92; 1894-96.
Panora Vidette, 1889-91; 1890-94.
Stuart Locomotive, 1893-94; 1895-96.

HAMILTON COUNTY.

Hamilton Freeman, 1857-59; 1860-62; 1866; Dec. 1877-June 79.
Hamilton County Journal, May 1894-Dec. 96.
Stanhope Saturday Mail, May 1894-Dec. 96.
Webster City Freeman, 1881; 1882; 1883; 1884; 1885; 1886; 1887-88; 1889-91;
1892; 1893; 1894-95.
Webster City Tribune, Apr. 1893-Dec. 95.

HANCOCK COUNTY.

Hancock County Democrat, 1887-89; 1890-92; 1893-94.
Hancock Signal, Mar. 1894-Dec. 96.

HARDIN COUNTY.

Eldora Enterprise, 1893-96.
Eldora Herald, 1880-82; 1883-84; 1885-87; 1889; 1890; 1893-94.
Eldora Ledger, 1885-87; 1888-90; 1891-92; 1893-94; 1895-96.

HARRISON COUNTY.

Missouri Valley News, 1894-96.
Missouri Valley Times, 1893-94; 1895-96.

HENRY COUNTY.

Mount Pleasant Free Press, 1883-85; 1893-94.
Mount Pleasant Journal, May 1893-Dec. 94.

HOWARD COUNTY.

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Respectfully
Samuel J. Kirkwood

SAMUEL J. KIRKWOOD.

1813-1894.

State Senator. "War Governor." United States Senator.
Secretary of the Interior.

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THE GIFT OF HON. THEODORE S. PARVIN.

Bound volumes of newspapers presented to the Historical Department of Iowa, by Hon. Theodore S. Parvin.

BLOOMINGTON—MUSCATINE.

Bloomington Herald, Oct. 1840–Oct. 1842; Nov. 1842–Mar. 1846; Apr. 1846–Sept. 1848; Nov. 1848–Feb. 1849.

Iowa Democratic Enquirer, July 1848–June 1850; July 1850–June 1853; July 1853–June 1855; July 1855–Dec. 1856; Jan. 1857–Oct. 1859; Nov. 1859–Sept. 1860.

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Iowa Standard, Oct. 1840–Nov. 1841.

Muscatine Courier, July 1863–Nov. 1864; Aug.–Oct. 1866.

Muscatine daily Courier, June 1862–Mar. 1863; Oct.–Nov. 1864.

Muscatine Journal, May 1849–May 1851; June 1851–May 1853; June 1853–May 1854.

Muscatine daily Journal, June–Dec. 1855; Jan.–July 1856; Aug. 1856–June 1857; July 1857–June 1858; July 1858–July 1859; Aug. 1859–July 1860; Aug. 1860–Feb. 1861; Mar. 1861–Dec. 1861; Jan.–July 1862; Aug.–Dec. 1862; Jan.–July 1863.

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Iowa Territorial Gazette and Advertiser, Mar. 2, 1839; Apr. 18, May 23, 30, 1840.

DES MOINES.

Iowa State Journal, Feb. 1860–Feb. 1861.

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Campaign Journal, July–Sept. 1859.

Iowa Statesman, July 1858–Apr. 1859.

IOWA CITY.

Iowa State Democratic Press, Aug. 1860–May 1862; Feb.–Nov. 1864.

Iowa State Reporter, Jan.–Oct. 1861.

Iowa weekly Republican, Apr. 1859–Oct. 1862.

Geo. W. Jones

GEORGE WALLACE JONES.
1804-1896.

United States Senator. Minister to New Grenada.

NEWSPAPERS NOW RECEIVED.

Following is a list of the 276 Iowa newspapers now regularly received by the Historical Department. Most of these come as gifts, or in exchange for The Annals of Iowa:

Adair County—

Fontanelle—Observer.

Greenfield—Adair County Democrat.

Adams—

Corning—Adams County Free Press; Adams County Union.

Allamakee—

Lansing—Allamakee Journal.

Waukon—Waukon Standard.

Appanoose—

Centerville—Centerville Citizen; Centerville Journal.

Audubon—

Audubon—Audubon Republican.

Exira—Audubon County Journal.

Benton—

Belle Plaine—Every Other Daily Union.

Vinton—Vinton Eagle (s-w).

Black Hawk—

Cedar Falls—Cedar Falls Gazette (s-w).

La Porte City—Progress Review.

Waterloo—Iowa State Reporter.

Boone—

Boone—Boone County Democrat; Boone County Republican; Boone News; Boone Standard.

Bremer—

Waverly—Bremer County Independent; Waverly Democrat.

Buchanan—

Independence—Bulletin-Journal; Independence Conservative.

Buena Vista—

Alta—Alta Advertiser.

Storm Lake—Buena Vista Vidette; Storm Lake Pilot-Tribune.

Butler—

Allison—Butler County Tribune.

Greene—Iowa Recorder.

Calhoun—

Lake City—Lake City Graphic.

Lohrville—Lohrville Enterprise.

Manson—Manson Journal.

Carroll—

Carroll—Carroll Herald (s-w); Carroll Sentinel.
Manning—Manning Monitor.

Cass—

Anita—Anita Republican.
Atlantic—Weekly Telegraph.

Cedar—

Tipton Advertiser.
West Branch—West Branch Times.

Cerro Gordo—

Clear Lake—Clear Lake Mirror.
Mason City—Cerro Gordo Republican; Mason City Globe-Gazette;
Sabre.

Cherokee—

Cherokee—Cherokee Times.

Chickasaw—

Nashua—Nashua Post.
New Hampton—New Hampton Tribune; Saturday Gazette.

Clarke—

Osceola—Osceola Democrat; Osceola Sentinel.

Clay—

Spencer—Clay County News; Spencer Herald; Spencer Reporter.

Clayton—

Elkader—Elkader Register.
McGregor—McGregor News; North Iowa Times.

Clinton—

Clinton—Buxton's Wheatland Gazette; Clinton Age (s-w); Clinton
Every Other Day Herald; Clinton Mirror.

Crawford—

Denison—Denison Bulletin; Denison Review.

Dallas—

Adel—Dallas County Record.
Perry—Perry Advertiser.

Davis—

Bloomfield—Bloomfield Democrat; Davis County Republican.
Davis City—Davis City Advance.

Decatur—

Garden Grove—Garden Grove Express.
Lamoni—College City Chronicle; Independent Patriot; Saints' Herald.
Leon—Decatur County Journal; Leon Reporter.

Delaware—

Hopkinton—Hopkinton Leader.
Manchester—Manchester Democrat; Manchester Press; Delaware
County News.

Des Moines—

Burlington—Burlington Gazette (s-w); Burlington Hawkeye (d); Satur-
day Evening Post.

Dickinson—

Milford—Milford Mail.

Spirit Lake—Spirit Lake Beacon.

Dubuque—

Dubuque Herald (d); Dubuque Times (s-w); Dubuque Telegraph (d).

Dyersville—Dyersville Commercial.

Farley—Farley Advertiser.

Emmet—

Estherville—Emmet County Republican; Estherville Democrat;
Northern Vindicator.

Fayette—

Oelwein—Oelwein Register.

West Union—West Union Gazette.

Floyd—

Charles City—Charles City Citizen; Charles City Intelligencer; Floyd
County Advocate.

Rockford—Rockford Gazette.

Franklin—

Hampton—Franklin County Recorder; Hampton Globe.

Fremont—

Hamburg—Fremont County Democrat.

Sidney—Fremont Sun.

Greene—

Grand Junction—Grand Junction Headlight.

Jefferson—Jefferson Bee; Souvenir.

Grundy—

Grundy Center—Grundy Center Herald; Grundy Center Republican.

Guthrie—

Guthrie Center—Guthrie.

Panora—Panora Vidette.

Stuart—Stuart Locomotive.

Hamilton—

Jewell—Jewell Record.

Stanhope—Saturday Mail.

Webster City—Hamilton County Journal; Webster City Freeman;
Webster City Tribune.

Hancock—

Britt—Britt News.

Garner—Hancock County Democrat; Hancock Signal.

Hardin—

Eldora—Herald; Eldora Ledger.

Iowa Falls—Iowa Falls Sentinel.

Harrison—

Logan—Logan Nucleus.

Missouri Valley—Harrison County News; Missouri Valley Times.

Henry—

Mount Pleasant—Free Press; Mount Pleasant Journal.

Howard—

Cresco—Howard County Times; Twice-a-Week Plain Dealer.

Humboldt—

Humboldt—Humboldt Independent; Humboldt County Republican.

Renwick—Renwick Times.

Ida—

Battle Creek—Battle Creek Times.

Ida Grove—Ida County Pioneer; Ida Grove Era.

Iowa—

Marengo—Marengo Democrat; Marengo Republican.

Jackson—

Bellevue—Bellevue Leader.

Maquoketa—Jackson Sentinel; Maquoketa Record.

Jasper—

Newton—Newton Herald; Newton Journal.

Jefferson—

Fairfield—Fairfield Journal; Fairfield Ledger.

Johnson—

Iowa City—Iowa City Press; Iowa City Weekly Republican.

Jones—

Anamosa—Anamosa Eureka.

Monticello—Monticello Express.

Wyoming—Wyoming Journal.

Keokuk—

Sigourney—Sigourney News.

What Cheer—What Cheer Twice-a-Week Patriot; What Cheer Reporter.

Kossuth—

Algona—Algona Courier; Algona Republican; Upper Des Moines.

Lee—

Ft. Madison—Evening Democrat (d).

Keokuk—Constitution-Democrat (d); Weekly Gate City.

Linn—

Cedar Rapids—Cedar Rapids Republican (d); Gazette (d); Western Poultry Journal (m).

Lisbon—Lisbon Herald.

Marion—Marion Pilot; Marion Register.

Lonisa—

Columbus Junction—Columbus Gazette.

Wapello—Wapello Republican.

Lucas—

Charlton—Charlton Democrat; Charlton Herald; Charlton Patriot.

Russell—Russell Recorder.

Lyon—

Rock Rapids—Lyon County Reporter; Review.

Madison—

Winterset—Madisonian; Winterset Review.

es—Oakaloosa Herald; Saturday Globe; Weekly Saturday
d.

le—Knoxville Express; Knoxville Journal.
Pella Blade.

ltown—Evening Times-Republican; Statesman-Press.

od—Mills County Tribune; Glenwood Opinion.

Mitchell County Press; Osage News.

on—Mapleton Press.
—Monona County Gazette.

Progress Defender; Union.

Y—
k—Red Oak Express; Sun.

ine—Muscatine Journal; News-Tribune; Muscatine Saturday

Liberty—West Liberty Index.

—Sheldon Eagle; Sheldon Mail.

—Osceola County Tribune; Sibley Gazette.

a—Cla-inda Herald; Page County Democrat.
oin Gazette.
doah—Fire-Brand (m).

burg—Emmetsburg Democrat; Palo Alto Reporter.

s—Le Mars Globe (s. w.); Le Mars Sentinel (s. w.).

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Fonda Times; Reveille.

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Poweshiek—

Grinnell—Grinnell Herald (s. w.).

Montezuma—Montezuma Democrat; Weekly Republican.

Ringgold—

Mount Ayr—Mount Ayr Journal; Ringgold Record.

Sac—

Odebolt—Chronicle.

Sac City—Sac Sun.

Scott—

Davenport—Davenport Democrat (d); Davenport Republican (d and w);
Iowa Catholic Messenger.

Shelby—

Harlan—Harlan Tribune; Shelby County Republican.

Sioux—

Hawarden—Hawarden Independent; Sioux County Herald.

Story—

Ames—Ames Intelligencer.

Maxwell—Maxwell Tribune.

Nevada—Nevada Representative; Story County Watchman.

Tama—

Tama City—Tama Free Press.

Toledo—Tama County Democrat.

Taylor—

Bedford—Bedford Free Press.

Union—

Afton—Afton Enterprise.

Creston—Creston Advertiser (s. w.); Creston Gazette.

Van Buren—

Farmington—Farmington News.

Keosauqua—Keosauqua Republican; State Line Democrat.

Wapello—

Eddyville—Eddyville Tribune.

Ottumwa—Ottumwa Weekly Courier; Ottumwa Weekly Democrat.

Warren—

Indianola—Advocate-Tribune; Indianola Herald.

Washington—

Washington—Washington Democrat; Washington Press.

Wayne—

Corydon—Times-Republican; Wayne County Democrat.

Webster—

Dayton—Dayton Review.

Fort Dodge—Fort Dodge Chronicle (s. w.); Fort Dodge Messenger (s. w.);
Fort Dodge Times.

Winnebago—

Forest City—Independent; Winnebago Summit.

Winneshek—

Decorah—Decorah Journal; Decorah Public Opinion; Decorah Republican.

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A handwritten signature in cursive script, reading "A. C. Dodge". The signature is written in dark ink on a plain white background.

AUGUSTUS CÆSAR DODGE.

1812-1885.

Soldier in the Black Hawk War. United States Senator.
Minister to Spain.

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 Sherman, S. S. Increase Allen Lapham; a biographical sketch.
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 Slaughter, Col. W. B. Oration delivered July 4, 1876.
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 Binet, Alfred. Psychology of prestidigitation.
 Bryce, James. Migrations of the races of men considered historically.
 Conant, Levi L. Primitive number systems.
 Davis, J. W. Chronology of the human period.
 Dorsey, J. O. Omaha and Ponka letters.
 Evans, John. Antiquity of man.
 Fowke, Gerard. Archæological investigation in James and Potomac valleys.
 Gambler, J. W. Guanches; ancient inhabitants of Canary.
 Goodyear, W. H. Discovery of Greek horizontal curves in the Maison Carrée, at Nîmes.
 Henshaw, Henry W. Perforated stones from California.
 Holmes, W. H. Ancient quarry in Indian territory.
 ——— Textile fabrics of ancient Peru.
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 Howarth, Henry. Methods of archæological research.
 Mason, Otis T. Migration and the food quest.
 Melville, R. D. Evolution of modern society in its historical aspects.
 Mooney, James. Siouan tribes of the east.
 Pilling, James C. Bibliography of Athapascan languages.
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 Romanes, George J. Weismann's theory of heredity.
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- Purification of sewage by aëration.
- Warren, Francis E. Shall we preserve our herds and flocks?
- Washburn and Moen vs. Grinnell Wire Co. Closing argument for complainants.
- Washington Bankers' Association. Proceedings of 4th annual meeting.
- Webster, Clement L. Among the cliff dwellers.
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 Tankers' Association. Proceedings of conventions, 2d-3d.
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 no. 86. Welker, Martin. Farm life in central Ohio sixty
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 A. Memoir of George Englemann, 1809-84.
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 Address; claims of woman suffrage.
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 72.
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 orter case, 1884.
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 e electoral votes, 1886.
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 ublican convention, Poweshiek county, 1887.
 s , municipal election, 1888.
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Wood, Lewis N. 3d annual address before the society.

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Memorial day leaflet, 1897.

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Engineering series.

v. 1, no. 1. Loree, L. F. Track.

No. 2. Wilkes, G. Hints in dynamo design.

No. 3. Purdy, C. T. Steel construction of buildings.

No. 4. Abbott, A. V. Evolution of a switchboard.

No. 5. Smith, L. S. Field methods.

No. 6. Grafton, W. Railway signaling.

No. 7. Loree, L. F. Emergencies in railroad work.

No. 8. Ferguson, Louis A. Electrical engineering in modern central stations.

No. 9. Gerdtzen, G. Adolph. Problem of economical heat, light, and power supply for building blocks, schoolhouses, dwellings, etc.

No. 10. Van Ornum, J. L. Topographical surveys, their methods and value.

v. 2, no. 1. Ford, A. H. Test of American transformers.

Economics, Political Science and History series.

v. 1, no. 1. Libby, O. G. Geographical distribution of the vote of the thirteen states on the federal constitution, 1787-88.

No. 2. Bullock, C. J. Finances of the United States, 1775-89.

No. 3. Coffin, Victor. Province of Quebec and the early American revolution.

v. 2, no. 1. Alden, G. H. New governments west of the Alleghanies before 1780.

Science series.

v. 1, no. 1. Schlundt, H. Speed of liberation of iodine in solutions of hydrochloric acid, potassium chlorate, and potassium iodide.

No. 2. Weldman, S. Quartz keratophyre and associated rocks of north range of the Baraboo Bluffs.

No. 3. Comstock, G. C. Spherical and practical astronomy.

No. 4. Hobbs, W. H. Contribution to the mineralogy of Wisconsin.

No. 5. Barnes, Charles R. Analytic keys to the genera and species of North American mosses.

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SUMMARY.

and volumes of newspapers.....	1,733
bers and periodicals now received.....	355
mphelets acquired up to date.....	3,407
oks acquired up to date.....	3,909

THE ALDRICH COLLECTION.

The following is but a partial list of the accessions of the past two years. Several hundreds will be arranged when case room is secured. "A. L. S." signifies autograph letter signed.

IOWA MEN AND WOMEN.

- Adams, Rev. Harvey, pioneer clergyman, one of the famous "Iowa Band," MS. sermon.
- Ainsworth, L. L., senator and member of congress, A. L. S., portrait.
- Alexander, J. S., senator, 26th G. A., signed portrait.
- Allyn, George S., senator, 26th G. A., signed portrait.
- Bailey, C. F., representative, 26th G. A., signed portrait.
- Baker, George T., representative, 26th G. A., signed portrait.
- Barkley, Alonzo J., soldier, 32d Iowa infantry, portrait.
- Barris, Prof. W. H., scientist, A. L. S., signed portrait.
- Bates, Curtis, pioneer newspaper publisher of Des Moines, portrait.
- Beck, Judge Joseph M., A. L. S., portrait.
- Bell, Thomas, senator, 26th G. A., signed portrait.
- Bell, William B., representative, 26th G. A., signed portrait.
- Bemis, George W., state treasurer, A. L. S., portrait.
- Bernard, Rev. Father, abbot of New Melleray, Dubuque, portrait.
- Berry, W. H., senator, 26th G. A., signed portrait.
- Blickerdyke, Mother Mary A., A. L. S., portrait.
- Bird, J. W., representative, 26th G. A., signed portrait.
- Blanchard, L. C., senator, 26th G. A., signed portrait.
- Bloomer, D. C., pioneer of Council Bluffs, A. L. S., portrait.
- Bonson, Robert, senator, 26th G. A., signed portrait.
- Bowen, D. H., representative, 26th G. A., signed portrait.
- Brady, E. M., representative, 26th G. A., signed portrait.
- Brant, David, representative, 26th G. A., signed portrait.
- Brazill, Rev. Father John F., pioneer Catholic priest of Des Moines, A. L. S., portrait.
- Bridgman, Gen. Joseph, A. L. S., Oath of office as 2d lieutenant in territorial militia, commission as 2d lieutenant, portrait.
- Brighton, H. H., representative, 26th G. A., signed portrait.
- Bunker, David, member of constitutional convention of 1857, portrait.
- Byers, H. L., senator, 26th G. A., signed portrait.
- Byers, H. Webb, speaker of house, 26th G. A., signed portrait.
- Byington, O. A., representative, 26th G. A., signed portrait.
- Callanan, Mrs. Martha C., official document signed, portrait.
- Calvin, Samuel, Iowa state geologist, A. L. S., portrait.

Frazee, John, representative, 26th G. A., signed portrait.
 Frink, O. H., representative, 26th G. A., signed portrait.
 Funk, A. B., senator, 26th G. A., signed portrait.
 Funk, J. H., representative, 26th G. A., signed portrait.
 Galland, Washington, distinguished pioneer, A. L. S., portrait.
 Garner, J. A., representative, 26th G. A., signed portrait.
 Garst, Warren, senator, 26th G. A., signed portrait.
 Gilbertson, G. S., senator 26th G. A., signed portrait.
 Good, J. L., representative, 26th G. A., signed portrait.
 Gorrell, J. R., senator, 26th G. A., signed portrait.
 Graff, Rev. Richard B., schoolmate of Bayard Taylor and pioneer of
 Marengo, portrait and manuscript.
 Grant, Mrs. E. L., widow of Judge James Grant, A. L. S.
 Gray, Charles A., artist, A. L. S.
 Greenleaf, Moses, commission as captain, etc.
 Griswold, H. J., representative, 26th G. A., signed portrait.
 Grote, J. F., representative, 26th G. A., signed portrait.
 Gurley, Z. H., representative, 26th G. A., signed portrait.
 Haguewood, Linnie, totally blind, deaf and dumb girl, A. L. S.
 Hall, W. S. pioneer of Dubuque, portrait.
 Ham, M. M., journalist, A. L. S., portrait.
 Harper, T. G., senator, 26th G. A., signed portrait.
 Harriman, W. F., senator, 26th G. A., signed portrait.
 Haugen, G. N., representative, 26th G. A., signed portrait.
 Hauger, William E., representative, 26th G. A., signed portrait.
 Hayes, Walter I., M. C., representative, 26th G. A., signed portrait.
 Hazen, James B., representative, 26th G. A., signed portrait.
 Healey, Thomas D., senator, 26th G. A., signed portrait.
 Hendershot, I. B., representative, 26th G. A., signed portrait.
 Henderson, George W., senator, 26th G. A., signed portrait.
 Herron, Dr. G. D., portrait.
 Hilton, James, pioneer of southern Iowa, A. L. S., portrait.
 Hinkhouse, R. W., representative, 26th G. A., signed portrait.
 Hinman, Stephen N., representative, 26th G. A., signed portrait.
 Hipwell, C. G., senator, 26th G. A., signed portrait.
 Hobart, Alva C., senator, 26th G. A., signed portrait.
 Holcomb, A. B., pioneer of Boone, contract by.
 Hoopers, Henry, senator, 26th G. A., signed portrait.
 Hotchkiss, A. C., journalist, senator, 26th G. A., signed portrait.
 Howell, Jesse B., journalist, A. L. S., portrait.
 Hunt, William B., representative, 26th G. A., signed portrait.
 Huntley, L. S., representative, 26th G. A., signed portrait.
 Hurst, Alfred, senator, 26th G. A., signed portrait.
 Jackson, Albert E., representative, 26th G. A., signed portrait.
 Jay, John T., representative, 26th G. A., signed portrait.
 Johnson, Jonas P., representative, 26th G. A., signed portrait.
 Johnson, Brigadier-General R. W., A. L. S.
 Johnston, C. Fred., representative, 26th G. A., signed portrait.
 Judd, Rev. Dr. Francis Emerson, A. L. S., portrait.
 Junkin, J. M., senator, 26th G. A., signed portrait.

- Parrott, Matt, journalist, lieutenant-governor, signed portrait.
 Patterson, L. B., author of first Iowa Homestead Law, A. L. S., signed portrait.
 Penrose, E. G., senator, 26th G. A., signed portrait
 Perkins, George D., member of Fifty-fourth and Fifty-fifth Congresses, A. L. S., signed portrait
 Perrin, William B., senator, 26th G. A., signed portrait.
 Perrott, E. G., representative, 26th G. A., signed portrait.
 Perry, T. B., senator, 25th G. A., A. L. S., signed portrait
 Phelps, Julian, senator, 26th G. A., signed portrait.
 Porter, Claude R., representative, 26th G. A., signed portrait.
 Potter, L. F., representative, 26th G. A., signed portrait.
 Power, John T. P., representative, 26th G. A., signed portrait.
 Powers, James K., register land office, A. L. S., portrait.
 Prentis, P. L., representative, 26th G. A., signed portrait.
 Pusey, Nathan M., senator, 26th G. A., signed portrait.
 Putnam, George M., representative, 26th G. A., signed portrait.
 Ranck, C. S., senator, 26th G. A., signed portrait.
 Ray, William G., representative, 26th G. A., signed portrait.
 Reed, J. F., representative, 26th G. A., signed portrait.
 Remley, Milton attorney-general, A. L. S., portrait.
 Richardson, D. N., editor Davenport Democrat, A. L. S., portrait.
 Riggen, John A., senator, 26th G. A., signed portrait.
 Roberts, George E., journalist, A. L. S., portrait.
 Robinson, C. H., representative, 24th and 25th G. A., U. S. pension agent, A. L. S., portrait.
 Rowen, John E., senator, 26th G. A., signed portrait.
 Russell, Mrs. John, signed portrait.
 St. John, Robert T., representative, 26th G. A., signed portrait.
 Scott, D. H., representative, 26th G. A., signed portrait.
 Sells, Elijah, ex-secretary of state, A. L. S., portrait.
 Sheean, J. L., Iowa pioneer, A. L. S., portrait.
 Sheean, Mrs. Laura Rawlins, signed portrait.
 Smyth, Bishop Clement, R. C. bishop of Dubuque, portrait.
 Spaulding, E. C., representative, 26th G. A., signed portrait.
 Stanton, Prof. E. W., Iowa Agricultural college, A. L. S.
 Sullivan, T. J., representative, 26th G. A., signed portrait.
 Swalm, Col. A. W., signed portrait.
 Talmadge, C. H., Iowa soldier, portrait.
 Temple, M. L., representative, 26th G. A., signed portrait.
 Thompson, John Almer, representative, 26th G. A., signed portrait.
 Thompson, Lieut. Seymour D., Iowa soldier, signed portrait.
 Tibbitts, O. O., representative, 26th G. A., signed portrait.
 Trewin, James H., senator, 26th G. A., signed portrait.
 Updegraff, Thomas, member Fifty-fourth and Fifty-fifth Congresses, signed portrait.
 Upton, Clark C., senator, 26th G. A., signed portrait.
 Van Houten, George H., representative, 26th G. A., signed portrait.
 Voelker, C. A., representative, 26th G. A., signed portrait.
 Wakefield, Judge G. W., A. L. S., signed portrait.
 Walker, Rear Admiral J. G., signed portrait.

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am Williams, pioneer railroad builder, portraits.
, representative, 26th G. A., signed portrait.
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, representative, 26th G. A., signed portrait.
old style copy book work of 1815.
, writ served by.
an, representative, 26th G. A., signed portrait.
gis, representative, 26th G. A., signed portrait.
George, Iowa pioneer, A. L. S., portrait.
representative, 26th G. A., signed portrait.
pioneer judge, A. L. S., portrait.
representative, 26th G. A., signed portrait.
horticulturist, A. L. S., portrait.
senator, 26th G. A., signed portrait.
arah A., "Aunt Becky," signed portraits.

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a, portrait.
garet W., portrait.
ah, portrait.
portrait.
, Carrie Lane, autograph, portrait.
Abigail Platt, portrait.
Holt, portrait
reeman, signed portrait.
M., portrait.
ary A., A. L. S.
e Amy, portrait.
, A. L. S., autograph, portrait.
L., postal card.
, A. L. S.

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lography.
n, signed portrait, biography.
wife, portraits.
es, portrait.
amin, A. L. S., portrait, biography.
Benjamin, portrait.
portrait, biography.
ohn, portrait.
, portrait.
garet, portrait, biography.

- Hardman, Col. Henry, signed portrait, biography.
Hollister, U., signed portrait.
Ingham, Rev. S. W., portrait, biographical data.
James, Samuel, signed portrait, biography.
James, Mrs. Samuel, signed portrait.
Lee, Rev. S. A., autograph, portrait.
Lister, James, signed portrait, biography.
Littlefield, E. M., portrait.
Littlefield, Mrs. E. M., portrait.
McKean, John, engraving.
McQueer, J. B., portrait.
Patterson, Lewis, portrait.
Patterson, Mrs. Lewis, portrait.
Rathbun, S. W., portrait.
Reynolds, Mrs. Frederick, pioneer teacher, portrait, biography.
Reynolds, Frederick C. (son of above), portrait, biography.
Ronen, John, signed portrait.
Skinner, Dr. W. M., portrait, biography.
Skinner, Peter R. and Classina Thompson (parents of above), portraits.
Stivers, William H., engraving.
Tryon, S. H., autograph, portrait, biography.
Webster, Wingot, portrait.
Williams, Henry D., portrait, biography.
Indian bracelet found at the Deer Lick south of Bismarck, S. D., by S. J. Stivers, Toledo, Iowa.
Part of an iron rake which had grown into an elm tree in Anamosa, Iowa.
Photograph of cave at Fremont, Iowa, in which counterfeit money was made before settlement of that section by white people.
Photograph of pioneer house built by S. G. Matson.
Spear point, knife, water-marked coral pebble. Presented by Thurston Joslin.
Sword of Abraham Wood.
Stone City, typewritten history, by J. A. Green.
Contribution of Cedar county pioneer, by Mrs. Margaret Safley of Tipton, Iowa.
Bunker, Moses, autograph, portrait, biography.
Burnside, James E., signed portrait, biography.
Coutts, William, autograph, portrait, biography.
Culbertson, John, autograph, portrait, biography.
Dale, Catharine, signed portrait, biography.
Dale, Susanna, autograph, portrait, biography.
Davis, A. I., A. L. S.
Fleming, Mrs. Catherine, signed portrait, biography.
Gower, Robert, signed portrait, biography.
Hammond, Willard, signed portrait, biography.
Safley, Mrs. Isabella Gilmore, first white woman in Linn county, Iowa, lived to be 103 years old, portrait, biography.
Safley, John G. (son of above), portrait, biography.
Safley, Mrs. I. C., portrait, biography.
Safley, John, autograph, portrait, biography.
Safley, James P., autograph, biography.

- Gould, B. A., geologist, A. L. S. .
Hale, Edward Everett, author, A. L. S., portrait.
Hale, John Parker, senator, A. L. S., portrait.
Hitchcock, Edward, geologist, A. L. S.
Hobart, Garret A., vice-president of U. S., portrait.
Ireland, Rev. John, Roman Catholic archbishop of St. Paul, Minn., A. L. S., envelope.
Irving, Washington, author and humorist, portrait.
Jordan, David Starr, naturalist, MS., signed portrait.
Kendall, Amos, statesman, autograph, portraits.
Lockwood, Belva Ann Bennett, reformer, autograph, portrait.
Longfellow, Alice M., daughter of the poet, A. L. S.
McConnel, A. J., governor of Idaho, requisition sent to Gov. Frank D. Jackson, of Iowa.
McKinley, William, president of U. S., portraits, autograph.
McMaster, John Bach, historian, A. L. S., autograph, portrait.
Marshall, John, jurist, A. L. S., portrait.
Meek, Fielding B., paleontologist, A. L. S., portrait.
Miller, Olive Thorne, author, A. L. S.
Mulvany, John, artist, A. L. S.
Perkins, Eli, humorous writer, A. L. S.
Petigru, James L., statesman, portraits.
Phelps, Elizabeth Stuart, author, portrait.
Piatt, John James, poet, autograph, poem.
Putnam, George Palmer, publisher, portrait.
Richardson, Charles F., author, portrait.
Roberts, Ellis H., statesman and author, A. L. S.
Rogers, William B., geologist, A. L. S., portrait.
Sargent, C. S., botanist, manuscript signed.
Sherman, Rev. Thomas Ewing, S. J., signed portrait.
Smith, Francis Hopkinson, artist, A. L. S., portraits.
Stanton, Edwin McMasters, statesman, two A. L. S., portraits, envelope.
Stevens, Rev. Abel, author, A. L. S., portrait, MS. page.
Stevenson, A. E., autograph, portrait.
Storrs, Richard Salter, clergyman, A. L. S., portrait.
Thaxter, Mrs. Celia, poet, portrait and signed MS.
Tompkins, Daniel D., vice-president of the United States, autograph, portrait.
Toucey, Isaac, statesman, A. L. S.
Townsend, George Alfred, journalist, A. L. S.
Warner, Susan, author, A. L. S.
Welling, James Clarke, educator, A. L. S.
Wells, David Ames, economist, portrait and MS.
Whittlesey, Elisha, lawyer, A. L. S.

Littré, Emile, French philologist, etc., A. L. S.
 Lowe, Robert, member of English Cabinet, 1871, autograph.
 Lytton, Bulwer, English novelist, A. L. S., portrait.
 Macdonald, George, Scotch poet and novelist, A. L. S., portrait.
 Marschall, Count, Austrian diplomat, A. L. S.
 Marston, Westland, English poet, novelist and dramatist, MS. poem, portrait.
 Maurice, F. D., A. L. S.
 Miller, Hugh, eminent Scotch geologist, A. L. S., portrait.
 Mitford, Mary Russell, English writer, engraving.
 Morison, James Cotter, English author, A. L. S.
 Nicholls, Rev. A. B., husband of Charlotte Brontë, A. L. S.
 Norton, the Hon. Caroline Elizabeth, eminent English writer, A. L. S., portrait.
 Parnell, Charles Stewart, Irish statesman, A. L. S., portrait.
 Rogers, Samuel, eminent English poet, A. L. S., portrait.
 Roget, Peter Mark, English physiologist, physician and writer, A. L. S., MS.
 Saint-Pierre, Jacques Henri Bernardin de, celebrated French author, wrote "Paul and Virginia," A. L. S., portrait.
 Sand, George, French romancer, A. L. S.
 Saporta, Marquis de, eminent Italian naturalist, A. L. S.
 Sayce, Archibald Henry, eminent English author, A. L. S., postal card.
 Smith, George, Scotch author, A. L. S., portrait, MS.
 Stephen, Leslie, English author, portrait, A. L. S., and MS.
 Strachey, Henry, English author, A. L. S., portrait.
 Sutherland, Duke of, autograph.
 Terry, Ellen, famous English actress, several portraits, signed MS.
 Thompson, James, English poet, A. L. S., document signed, portrait.
 Whistler, J. A. McNeill, etcher and painter, A. L. S., portrait.
 Whiteaves, Joseph F., Canadian naturalist, A. L. S.
 Yates, Edmund Hodgson, English novelist, A. L. S., portrait.
 Zimmera, Helen, German-English author, portrait, L. S.

PORTRAITS AND PICTURES.

Oil portraits of Senator W. B. Allison (loaned), Norman Everson, Dr. S. G. Matson, Dr. W. F. Peck, Hiram Price, Judge William H. Seever, George Washington (loaned), Gen James A. Williamson, James F. Wilson.
 Engraved portraits of Governors Carpenter, Drake, Larrabee, framed, with autograph letters.
 Steel portrait of George Washington, by W. E. Marshall.
 White bronze medallion of George Washington, presented by Western White Bronze Co., Des Moines.
 Large bronze medallions of Gen. W. W. Belknap, Gen. Edward Hatch and Gen. Edward F. Winslow.
 Large photographs of Gen. George W. Jones, and Maj. Hoyt Sherman.

LIST OF BIRDS—CONTINUED.

SCIENTIFIC NAME.	COMMON NAME.
<i>Philohela minor</i>	American woodcock.
<i>Podilymbus podiceps</i>	Pied billed grebe.
<i>Porzana carolina</i>	Sora rail (2).
<i>Progne subis</i>	Purple martin.
<i>Rallus virginianus</i>	Virginia rail.
<i>Sitta canadensis</i>	Red breasted nuthatch.
<i>Syrnium nebulosum</i>	Barred owl.
<i>Tachycineta bicolor</i>	Tree swallow.
<i>Turdus ustulatus swainsonii</i>	Olive back thrush.
<i>Tympanuchus americanus</i>	Prairie hen (2).

MAMMALS.

SCIENTIFIC NAME.	COMMON NAME.
<i>Arctomys monax</i>	Woodchuck.
<i>Cariacus virginianus</i>	White tailed deer—one year old.
<i>Cariacus virginianus</i>	Whitetailed deer—three months old.
<i>Cervus canadensis</i>	Elk fawn—three months old.
<i>Sutra canadensis</i>	Otter from Dallas Center.
<i>Sciurus leucotis</i>	Gray squirrel.

PREHISTORIC STONE IMPLEMENTS.

- Arrow points (4) found in Beaver Valley eight miles n. w. of Des Moines.
- Arrow points (15) collected in the Rocky Mountains by Mrs. Charles Aldrich.
- Arrow point (iron) drawn from the neck of a dead man after the battle of Wounded Knee. Presented by Abner Bell.
- Arrow head. Presented by H. W. Browne, Belleville, Kansas.
- Arrow heads (2). Presented by James G. Blachley.
- Arrow heads (4). Presented by A. L. Druet, Marysville, Iowa.
- Arrow head. Presented by Fred Whittemore, Des Moines.
- Axes (6), spear head (1), arrow heads (43). Presented by Captain Washington Galland, Montrose, Iowa.
- Axes (2) Presented by Charles Aldrich, Boone, Iowa.
- Axe and two arrow points. Presented by H. T. Fullerton, Boone, Iowa.
- Axe found near Fort Dodge, Iowa, in 1862. Presented by James W. Logan, Waterloo, Iowa.
- Axes (3). Presented by Will F. Smith, Webster City, Iowa.

Flint-lock musket—fine English piece, left on the battle-field of Plattsburg, N. Y., Sept. 11, 1814, and picked up by an American soldier, whose descendants have preserved it until now. The ramrod was lost, otherwise it is in complete order. Loaned by G. E. Knowlton, Boone, Iowa.

John Brown pike—procured at Harper's Ferry immediately after the capture of John Brown and his men. Presented by Hon. Albert Swalm, Oskaloosa, Iowa.

Pipe picked up on the field of Tippecanoe by J. J. Wilson, Nov. 8, 1811. Presented by F. M. Armistead

Revolver taken from the dead body of a Louisiana "tiger" after the battle of Ft. Donelson, by Geo. Kimble, private Co. E, 2d Iowa Vols.

Saber with brass scabbard, carried by Maj.-Gen. Sam R. Curtis in the Mexican war and the war of the rebellion.

Saber with steel scabbard, carried by Lieut.-Col. S. S. Curtis in the war of the rebellion.

Sword in bronze scabbard with gilt trimmings, carried by Maj. Henry Z. Curtis who fell in the war of the rebellion.

These three swords were loaned to the department by Col. S. S. Curtis, Omaha, Neb.

Sword, sash and belt of Gen. Cyrus Bussey.

Two United States wall pieces or swivel guns. The short one was made at Harper's Ferry, Va., the longer one at Springfield, Mass. Soon after they were manufactured this species of arms went into disuse, having been obsolete nearly fifty years. They are accompanied by the usual implements, as bullet-moulds, chargers, wipers and ramrods. Purchased.

War tax receipt, 1862. Presented by Fred Whittemore, Des Moines.

MISCELLANEOUS.

ALCOHOL SPECIMENS—Black snake, blue racer, prairie rattler, silver eel, striped snake (2), water snake, water snake—spotted variety.

Apache Indians—nine photographs. Presented by L. Viggers, Des Moines.

Arctic relics—snow shoes and alpenstocks. Presented by Walter Wellman, Washington, D. C.

Badge used at fifth annual convention of Iowa State Federation of Labor held in Des Moines, May 24, 1897. Presented by Iowa State Federation of Labor.

Badge worn at the funeral of General Grant. Loaned by A. J. Small, Des Moines.

Bronze medals (5)—awarded to the state by the Columbian exposition, and two by the Paris exposition of 1889.

Cane from timber in the log cabin at Spirit Lake, where the massacre occurred. Presented by S. O. Pillsbury, Milford, Iowa.

Candle-moulds. Presented by Miss Flora Wright, Des Moines.

- Iowa State Bank \$5 bill. Presented by L. F. Andrews, Des Moines.
- Old paper money. Presented by V. A. Ballou, Nevada, Iowa.
- One cent coins (2), 1797 and 1805. Presented by L. H. Sawyer, Des Moines.
- Revolutionary money (18 specimens). Presented by L. H. Sawyer, Des Moines.
- Wild-cat money—\$3 bill. Presented by E. B. Barnum, of Des Moines.
- Mound builder's pottery. Small jar or pot dug from mound two miles west of North McGregor, Iowa, in 1894. Purchased.
- Negro yoke. Loaned by W. H. Brown, Hawarden, Iowa.
- Nests of ruby-throated humming bird (*Trochilus colubris*). Presented by George Roland, Des Moines.
- Obsidian from Glass Mountain, Yellowstone Park. Presented by V. A. Ballou, Nevada, Iowa.
- Old-fashioned weaver's shuttles. Presented by Mrs. E. H. Durley, Des Moines.
- Ornamental knapsack made from tanned buffalo hide and ornamented with beads and colored porcupine quills. Presented by Abner Bell.
- Piece of stone from one of the "fire-places" built by Lieut. Zebulon Pike's expedition to the upper Mississippi region in 1805. Presented by Dr. Elliott Coues, Washington, D. C.
- Piece of whalebone from the streets of Monterey, California.
- Pottery. Fragment of prehistoric pottery from Arizona ruins. Presented by Burt Ogburn, Phoenix, Arizona.
- Prehistoric charcoal found in ruins near Phoenix, Arizona. Found and presented by Burt Ogburn.
- Quartzite with glacial scratches. From aboriginal mound, Boone county, Iowa. Probably used as a hammer.
- Satin handbill. Presented by Hon. Francis Springer, Columbus Junction, Iowa. Relates to the reunion of the members of the Iowa Constitutional Convention of 1857, held in Des Moines in 1882.
- Sawfish caught by H. B. Hedge, of Des Moines, April 1, 1895, at St. Petersburg, Florida, (Tampa Bay, Gulf of Mexico), and by him presented to this Department. The length of this fish was 14 feet 10 inches, and its estimated weight 800-900 pounds.
- Shell bracelets from Arizona ruins. Presented by Burt Ogburn.
- Shovel-nosed sturgeon (*Scaphrynchus platyrhynchus*), from Iowa river. Presented by Dr. Chas. R. Keyes, Des Moines.
- Septaria from Mt. Ayr, Iowa. Presented by Mr. Bailey.
- Silver trowel with which Governor Merrill laid the corner stone of the capitol building, Nov. 23, 1871. Presented by Gov. Samuel Merrill, Los Angeles, California.
- Sioux chief's (Big Head) pipe. Presented by Will F. Smith, Webster City, Iowa.
- Skull of a buffalo bull from North Dakota. Presented by Donovan Bros., Des Moines. Has a part of an Indian arrow-head still remaining in the frontal bone.
- Snapping turtle. Purchased.
- Snow shoes manufactured by a moose hunter in Maine. Loaned by A. B. Goodrich, Des Moines.

MISCELLANEOUS.

turtle and eggs.

of coral from Jones county, Iowa. Presented
Des Moines.

of a deposit in one of the mud geysers of
nted by V. A. Ballou, Nevada, Iowa.

as of crude early pottery, from aboriginal men

of crystallized quartz from mine in Lake count

of wood from West Des Moines, Mahaska cou

a bed of sand under a high bluff. Presented
aska county, Iowa.

desk. First piece of furniture manufactured

of the territory of Iowa, in July, 1838. Upon

his first message to the territorial legislatu

year.

om an ancient ceremonial cave near Tempe, A

urt Ogburn, Phoenix, Arizona.

tick—the root of a tree. Presented by H. J. B

orn stone, shaped like a human foot, found in s

Moines Zoological garden, in 1892. Presented

Moines.

ead. Presented by J. K. Plymate, Albion, Iowa.

eda. Presented by the late Mrs. Rebecca F. W

LIST OF DONORS.

	Doubleday, O. E., Elkhart
ue.	Drake, Gov. Francis M., Des Moines.
	Druet, A. L., Marysville.
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	Dubuque Telegraph.
	Durley, Mrs. E. H., Des Moines.
lety.	Eagle, T. D., Davenport.
	Earlham College, Richmond, Ind.
uelty	Essex Institute, Salem, Mass.
	Everson, Mrs. Norman, Washington.
	Field Columbian Museum, Chicago
	France, Lewis B., Madison, Wis.
ss.	Fullerton, H. T., Boone.
	Galland, Capt. Washington, Montrose.
	Gear, Gov. John H., Burlington.
	Goodrich, A. B., Highland Park, Des Moines.
	Graceland College, Lamoni.
	Granger, Judge Charles T., Des Moines.
	Green, Hon. J. A., Stone City.
	Greenleaf, Capt. Moses, Des Moines.
	Hall, Prof. James, Albany, N. Y.
Kan.	Hamilton, James Cleland, Toronto, Canada.
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	Iowa City, City of.
	Iowa College, Grinnell.
	Iowa Congregational Association
	Iowa Democratic State Central Committee.
shall-	Iowa Republican State Central Committee.
Chapman, Miss J., Des Moines.	Iowa State Agricultural College, Ames.
Chase, Frank N., Cedar Falls.	Iowa State Geological Survey
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Council Bluffs Free Public Library.	Johnson, A. I., Des Moines.
Crane, Miss Agnes, Brighton, England.	Joslin, Thurston.
Crapo, Hon. Philip M., Burlington.	Junkin, Paul S., Orange City.
Crooke, W. H., Boone.	Kamrar, J. L., Webster City.
Crosby, James O., Garnaville.	Kansas Historical Society.
Crosley, Col. G. W., Webster City.	Kasson, Hon. John A., Washington, D. C.
Curtis, Col. S. S., Omaha, Neb.	Keith Brothers, Alta.
Davenport Academy of Natural Sciences.	Kempker, Rev. John F., Valley Junction.
Davenport, City of.	Keokuk, City of.
Davis, Thomas, Sevastopol, Des Moines.	Keves, Dr. Charles R., Des Moines.
Dedham (Mass.) Historical Society.	Killeffer, J. T., Clinton.
Denver Public Library	King, M. H., Des Moines
Des Moines Public Library.	Kinne, Judge L. G., Des Moines.
Donovan Brothers, Des Moines.	Knowlton, G. E., Boone.

LIST OF DONORS.

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	Stanton, E. W., Ames.	
	Star Engraving Company, Des Moines	
tical society, st. paul,	Stivers, S. J., Toledo.	
	Swalm, Mr. and Mrs. Col. Albert, O	
a,	loosa.	
	Thurston, L. A.	
o.	Toronto, University of.	
	Townsend, Hon. Martin L., Troy, N. Y	
	Tungate, S., Des Moines.	
a-	United States Government, Washing	
	City.	
	ew York, I	
	Moines.	
	Charles C	
	on, D. O.	
Q.	Antiqua	
a.	White Bronze Co., Des Moines.	
	White, Dr. Charles A., Washington, D	
	Whittemore, Fred, Des Moines.	
	Williamson, Gen. James A., New Y	
y.	City, N. Y.	
	Wilson, Hon. James, Washington, D. C	
	Wilson, Rollin J., Fairfield, Iowa.	
	Wisconsin, Department of Public Inst	
	tion.	
	Wisconsin State Historical Society.	
	Witter, D. E., Council Bluffs.	
	Wright, Carroll, Des Moines.	
	Wright, Miss Flora, Des Moines.	
2,	Wright, Mrs. Rebecca, Des Moines.	
	Wyoming (Pa) Historical and Geolog	
1-	Society.	
	Yeomans, Hon. J. D., Washington.	

all, Switzerland.
Brinnell.

FINANCIAL STATEMENT.

Balance unexpended November 1, 1895	\$ 3,051.25
Appropriation for year ending June 30, 1897.....	6,000.00
Appropriation for year ending June 30, 1898.....	6,000.00
Total	\$ 15,051.25

EXPENDITURES FROM NOVEMBER 1, 1895, TO NOVEMBER 1, 1897.

Salaries of officers and employees	\$ 5,010.00
Books, magazines, papers	1,064.51
Postage and office supplies.....	619.14
Freight and express charges	105.57
Printing, binding, engraving	2,307.40
Museum articles and taxidermy.....	717.72
Traveling expenses	142.72
Incidental expenses.....	415.83
Total.....	\$ 10,983.88
Balance unexpended.....	4,067.47
Total.....	\$ 15,051.25

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FIFTY-FIRST BIENNIAL REPORT

OF THE

BOARD OF CURATORS

OF THE

Des Moines Historical Society

TO THE

GOVERNOR OF THE STATE.

1897.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:

F. B. CONAWAY, STATE PRINTER.

1897.

LETTER OF TRANSMITTAL.

Drake, Governor of Iowa:
Herewith transmit to you the twenty-first biennial
report of the board of curators of the State Historical Society
Yours respectfully,

M. W. DAVIS,
Secretary.

The Early Clergy of Iowa, by Dr. J. L. Pickard, of Iowa City

Prehistoric Iowa, by Prof. S. Calvin.

Iowa Indians, by Dr. J. L. Pickard.

The Louisiana Purchase, by Dr. C. M. Hobby.

The Introduction of the Common Law into Iowa, by Chancellor E. McClain.

A Contribution to the Early History of Iowa, by Dr. B. F. Shambaugh.

The lectures have all been published in pamphlet form by the society for distribution, and in addition to the above the society have published "Constitution and Records of the Claim Association of Johnson County," by Dr. B. F. Shambaugh; "The Amish Mennonites," by B. L. Wick; "Documentary Material Relating to the History of Iowa," by Dr. B. F. Shambaugh, issued at irregular intervals. Eight numbers have been published, making the first volume of 288 pages.

These publications, of very valuable historical matter, are in such form as to enable the student in history to easily obtain data.

In addition to the historical matter referred to the society have for over twelve years published "The Iowa Historical Record," a forty-eight page quarterly historical magazine, containing portraits and biographical sketches of some of the early prominent settlers, together with historical matter contributed by the best known writers of our state.

These publications are exchanged with the newspapers of the state and with historical societies and public libraries throughout the country, bringing us their publications that are filling up our shelves with valuable historical matter that could not otherwise be obtained. We have over 2,000 bound volumes of state newspapers, some reaching back before the organization of, and from all parts of the state, which contain more local history than can be obtained in any other form, and it would be a pleasure to us to acknowledge the receipt of every paper, book or pamphlet published in the state, and let us assure all persons interested that all such contributions sent us will receive proper and careful attention, and will be filed away in a safe and convenient place for inspection and reference.

The rooms are open to the public on Wednesdays and Saturdays of each week, and are visited by persons from all parts of the country to the number of several thousand yearly, and few of the many visitors go away without expressing their surprise at the collection of articles illustrative of Iowa history. Especially is this true of the students of the State University,

TREASURER'S REPORT.

of Society of Iowa in account with Lovell Swisher, Treasurer.

GENERAL FUND.

[RECEIPTS.

by balance on hand	\$ 9.27	
received from state treasurer.....	2,000.00	
.....		\$ 2,009.27

DISBURSEMENTS.

nos. 1 to 79	2,003.14	
balance on hand.....		\$ 6.13

SPECIAL FUND.

RECEIPTS.

by balance.....	\$ 150.08	
.....	221.50	
.....		\$ 371.58

DISBURSEMENTS.

nos. 1 to 12	365.85	
balance on hand.....		\$ 5.73

PRINTING AND BINDING FUND.

by balance.....	\$ 2.75	
by balance	2.75	

Following shows the expenditures of the society for the

Historical Record.....	\$ 787.42
Programs.....	272.37
.....	550.00
Care of rooms	329.25
.....	300.00
.....	26.35
.....	31.95
Box rent	33.48
Eight.....	18.00
.....	15.62
.....	2.00
.....	2.85
.....	\$ 2,368.99

	Books.	Pam.
f Labor, Washington.....	3	
aribault, Minn.....	1	1
M., Clinton, Iowa.....	3	
ical Society, Chicago.....		2
re, New York.....		1
ity, Ithaca, N. Y.....		3
urrency, Washington.....	2	2
rical Society, San Francisco.....		1
ommission, Washington.....		1
arsity, Berkeley.....		6
Company, Cincinnati, Ohio.....		1
Public Instruction, Des Moines.....	1	3
State, Washington.....	3	31
Interior, Washington.....	37	11
Labor, Washington.....	2	8
Agriculture, Washington.....	1	31
. L., Des Moines.....	1	
lemy of Natural Science, Davenport.....		1
owa City.....	6	4
Library, Detroit.....		1
Co., New York.....		7
l C. W., Utica, N. Y.		7
Salem, Mass.		5
on		12
. City.....	1	
Feld, Boston	1	
n, Washington	9	1
3., New York.....		9
uel A., Boston	1	8
inor E., Iowa City		6
nd Biographical Society, New York.....		8
ton		9
New South Wales, Sidney.....	2	
cal Society, Savannah.....		1
ociety of Quebec.....		1
ty of Pennsylvania, Philadelphia.....	1	7
Philosophical Society, Cincinnati		2
sity, Cambridge, Mass.....	2	2
Chicago	1	
John, Des Moines	1	
Worcester, Mass.		1
v. Geo., Northfield, Minn.	2	
rtment, Des Moines		7
ty of Montana, Helena		2
Milan, Italy		6
n. W. C., Stockholm, Sweden		4
P., New York.....		9

	Books.	Pam.
National Museum, Washington.....		1
National Municipal League, Philadelphia.....		1
New York Public Library, New York.....		2
New Jersey Historical Society, Newark, N. J.....		2
New York Historical Society.....		1
Naval Observatory, Washington	2	1
O'Brieness, W. E., Des Moines.....	1	
Oneida Historical Society, Utica, N. Y.....	1	5
Old Colony Historical Society, Taunton, Mass.		1
Peet, Rev. S. D., Goodhope, Ill.		13
Perry, Bishop, Davenport.....		1
Pickard, Dr. J. L., Iowa City	4	5
Pepper, David, Philadelphia.....	1	
Parvin, Hon. T. S., Cedar Rapids.		10
Parsons, J. Russell, Chicago	1	
Public Museum, Milwaukee.....		1
Public Library Exchange, Sidney, New South Wales.....	1	
Pennsylvania State University, Philadelphia		1
Pope Manufacturing Co., Boston		2
Putnam Sons, New York.....		1
Public Ledger Co., Philadelphia.....		1
Post Office Box 215, Providence, R. I.		1
Quaritch, Bernard, London, Eng.		6
Royal Academy of History, Stockholm, Sweden.....		5
Rhode Island Historical Society, Providence.....		4
Rich, J. W., Iowa City	1	
Rohback, Prof. J. A., Iowa City.....	3	7
Rochester Historical Society, Rochester, N. Y.		1
Reid, Harvey, Maquoketa, Iowa		3
Smithsonian Institution, Washington	9	16
Sabin, Hon. Henry, Des Moines	1	3
State Library, Des Moines	1	
State University, Iowa City.....	2	
Searight, James A., Uniontown, Pa.....	1	
Scott, Orion C., Oskaloosa		2
Secretary of State, Des Moines.....	380	1
State Library, Harrisburg, Pa.....	73	
State Library, Lansing, Mich.	4	
Southern California Historical Society, Los Angeles		2
Secretary of Interior, Washington.....	40	1
Secretary of Treasury, Washington.....	2	
State Historical Society, Madison.....		1
Superintendent of Documents, Washington.....	2	
Salem Public Library, Salem, Mass.....		1
Texas State Historical Association, Austin.....		1
Thomas, Douglas H., Baltimore.....	1	
Tulane University, New Orleans.....		1

	Books.	Pam.
es Catholic Historical Society, New York.....		2
es Cavalry Association, Fort Leavenworth.....		7
of Vermont, Burlington.....		2
of California, Berkeley.....		3
of Pennsylvania, Philadelphia.....		2
Hon. Geo. W., Sioux City.....		1
en. J. P., Muscatine.....	1	2
Commemorative Association, Wilkes Barre.....		3
Society of Antiquity, Worcester.....		5
Historical Society, Madison.....	1	1
Reserve Historical Society, Cleveland.....	1	2
ment, Washington.....	2	6
Historical and Geological Society.....		2
William C., Boston.....	1	
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University, Madison.....		1
rsity.....	2	2

To His Excellency, F. M. Drake, Governor of Iowa:

SIR—In compliance with section 2625 of the code I have the honor to submit to you the report of the department of public instruction for the biennial period ending September 30, 1897.

HENRY SABIN,
Superintendent of Public Instruction.

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GENERAL SUMMARY OF STATISTICS.

SECRETARIES' REPORTS.

SCHOOL DISTRICTS.

	1895.	1896.	1897.
District townships	1,193	1,189	1,190
Independent districts	3,614	3,633	3,647
Whole number of districts	4,807	4,822	4,837
Subdistricts	9,280	9,265	9,311

SCHOOLS.

Ungraded	12,517	12,528	12,578
Rooms in graded	4,777	5,002	5,184
Whole number	17,294	17,528	17,762
Average duration in months	8.0	8.0	8.1

TEACHERS.

Males employed	5,726	5,614	5,824
Females employed	22,117	22,507	22,208
Whole number	27,843	28,121	28,032
Average monthly compensation, males	\$ 37.68	\$ 38.28	\$ 37.01
Average monthly compensation, females	31.63	32.23	31.45

SCHOLARS.

Between 5 and 21, males	362,364	367,009	369,772
Between 5 and 21, females	350,577	353,166	357,922
Total enumeration	712,941	720,175	727,694
Enrolled in public schools	533,824	543,052	546,836
Total average attendance	339,300	345,242	347,620
*Percentage enrollment on enumeration	76.6	76.2	76.0
Percentage attendance on enrollment	63.5	63.5	63.5
*Percentage attendance on enumeration	48.7	48.4	48.3
Average tuition per month per scholar	\$ 1.87	\$ 1.89	\$ 1.87
Average number enrolled to each teacher	30	30	30

* Computed on enumeration of previous year, during which these statistics accrued.

SCHOOLHOUSES.

	1895.	1896.	1897.
Whole number	13,613	13,686	13,744
Value	\$15,645,543	\$15,867,425	\$ 16,355,842

APPARATUS.

Value	\$ 569,910	\$ 597,254	\$ 619,833
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DISTRICT LIBRARIES.

Number of volumes	151,561	176,519	212,702
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SHADE TREES ON SCHOOL GROUNDS.

Number of growing trees	182,610	181,623	198,003
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TEMPERANCE INSTRUCTION.

Schools teaching effects of stimulants	16,987	17,220	17,384
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TREASURERS' REPORTS.

TEACHERS' FUND.

RECEIPTS.

	1895.	1896	1897.
On hand at last report	\$2,058,200.86	\$2,194,121.33	\$ 2,348,105.77
From district tax	4,305,995.81	4,436,426.63	4,459,044.92
From apportionments	838,531.56	833,631.54	816,044.27
From other sources	140,508.48	154,729.80	129,196.34
Total receipts	\$7,343,236.71	\$7,618,908.80	\$ 7,752,391.30

EXPENDITURES.

Paid teachers	\$5,075,492.37	\$5,205,287.19	\$ 5,264,353.70
Paid for other purposes	73,623.01	65,515.84	82,993.32
Total expenditures	\$5,149,115.38	\$5,270,803.03	\$ 5,347,347.02
On hand	2,194,121.33	2,348,105.77	2,405,044.28
Total	\$7,343,236.71	\$7,618,908.80	\$ 7,752,391.30

SCHOOLHOUSE FUND.

RECEIPTS.

	1895.	1896.	1897.
On hand at last report.....	\$ 395,514.91	\$ 353,640.54	\$ 323,855.88
From district tax.....	739,887.26	766,853.88	767,170.59
From other sources.....	581,090.30	483,812.51	554,340.26
Total receipts.....	\$1,716,492.47	\$1,604,306.93	\$ 1,645,366.73

EXPENDITURES.

For schoolhouses and sites.....	\$ 658,656.17	\$ 678,063.73	\$ 638,485.37
On bonds and interest.....	520,931.33	438,022.15	546,998.46
For libraries and apparatus.....	13,430.10	10,692.52	10,344.58
Paid for other purposes.....	169,834.33	153,672.65	143,056.87
Total expenditures.....	\$1,362,851.93	\$1,280,451.05	\$ 1,341,885.28
On hand.....	353,640.54	323,855.88	303,481.45
Total.....	\$1,716,492.47	\$1,604,306.93	\$ 1,645,366.73

CONTINGENT FUND.

RECEIPTS.

	1895.	1896.	1897.
On hand at last report.....	\$ 543,215.48	\$ 590,042.52	\$ 683,190.60
From district tax.....	1,631,354.76	1,654,731.17	1,616,820.48
From other sources.....	221,379.58	224,209.01	212,937.47
Total receipts.....	\$2,395,949.82	\$2,468,982.70	\$ 2,512,948.55

EXPENDITURES.

For fuel, rent, repairs, etc.....	\$1,114,181.10	\$1,081,605.96	\$ 1,089,972.49
Paid secretaries and treasurers.....	137,673.02	138,010.88	139,660.93
For records, dictionaries, etc..	64,633.39	58,188.92	58,493.70
For free text-books.....	-----	-----	41,009.51
For general supplies.....	209,365.61	197,896.29	187,172.37
For other purposes.....	280,054.18	310,090.05	234,886.51
Total expenditures.....	\$1,805,907.30	\$1,785,792.10	\$ 1,751,195.51
On hand.....	590,042.52	683,190.60	761,753.04
Total.....	\$2,395,949.82	\$2,468,982.70	\$ 2,512,948.55

COUNTY SUPERVISION.

EXAMINATION OF TEACHERS.

	1895.	1896.	1897.
First grade certificates issued	11,848	8,951	4,926
Second grade certificates issued	14,336	15,810	16,021
Third grade certificates issued	1,145	2 529	3,289
Special certificates issued	-----	145	209
Total number issued	27,329	27,435	24,445
Applicants rejected	5,225	5,443	4,832
Total number examined	32,554	32,878	29,277
Certificates revoked	4	3	4
Average age of applicants	25 and 22	25 and 22	25 and 22
No experience in teaching	3,876	3,666	3,639
Taught less than one year	3,852	3 733	3,828
With state certificates or diplomas	677	717	807

VISITATION OF SCHOOLS.

Schools visited	11,692	10,982	12,636
Visits made during the year	15,167	13,914	16,474
Educational meetings held	1,098	1,347	1,753

APPEALS.

Number of cases	62	54	36
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COMPENSATION OF COUNTY SUPERINTENDENTS.

Average received per annum	\$ 1,220	\$ 1,226	\$ 1,215
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PRIVATE SCHOOLS.

Number reported	268	270	2 9
Teachers employed	1,401	1,389	1,320
Students in attendance	34,153	36,129	32,430
Number of graduates	1,966	2,221	2,028

TEACHERS' NORMAL INSTITUTES.

GENERAL REPORT.

	1895.	1896.	1897.
Number of institutes held	99	99	99
Continuing weeks	2 3	2 3	2 3
Males in attendance	3,611	3,704	3,737
Females in attendance	18,357	19,204	18,501
Total in attendance	21,968	22,908	22,238

TABULAR EXHIBIT SHOWING THE GROWTH OF THE PUBLIC

* No report in 1855.

† Including independent districts.

‡ Rooms in graded schools.

SCHOOL SYSTEM OF IOWA FROM 1847 TO 1897 INCLUSIVE.

CONDENSED COMPARISON FOR LAST FIVE YEARS.

ITEMS COMPARED.	1893.	1894.	1895.	1896.	1897.
Number of ungraded schools.....	12,887	12,456	12,517	12,596	12,578
Rooms in graded schools	4,328	4,520	4,777	5,002	5,184
Whole number of schoolrooms.....	16,715	16,976	17,294	17,528	17,762
Average number of days taught.....	156	158	160	160	162
Number of schoolhouses.....	13,483	13,519	13,618	13,686	13,744
Value of schoolhouses ..	\$15,110,494	\$15,007,468	\$15,645,543	\$15,867,425	\$16,355,842
Schoolhouses built during the year ...	No data	847	305	293	241
Schoolhouses with flags.....	2,862	3,446	4,195	4,684	5,505
Enumeration between 5 and 21.....	687,150	697,228	712,941	720,175	727,694
Number enrolled in school.....	513,614	522,731	533,824	543,052	546,836
Average daily attendance.....	324,217	331,408	339,300	345,242	347,620
Average No. enrolled to each teacher.	30	30	30	30	30
Average monthly tuition, per pupil... \$	1.89	1.89	1.87	1.89	1.87
Male teachers employed.....	4,837	5,281	5,726	5,614	5,824
Female teachers employed.....	22,464	22,782	22,117	22,507	22,208
Total different teachers employed ..	28,301	28,063	27,843	28,121	28,032
Average monthly wages, males	\$ 38.73	\$ 38.19	\$ 37.68	\$ 38.28	\$ 37.01
Average monthly wages, females.....	30.81	31.60	31.63	32.23	31.45
Teachers necessary to supply all sch'ls	17,084	17,366	17,677	17,861	18,008
Schools teaching effects of stimulants.	15,998	16,686	16,967	17,220	17,364
Teachers enrolled in normal institutes	19,207	22,360	21,968	22,908	22,238
Expended for normal institutes.	\$ 53,208	\$ 59,063	\$ 62,140	\$ 61,921	\$ 61,579
Av yearly salary of county supts.....	1,191	1,203	1,220	1,226	1,215
Paid for teachers' salaries.....	4,789,323	4,967,251	5,075,492	5,205,287	5,264,354
For all other purposes	3,124,052	3,303,239	3,242,883	3,181,759	3,176,074
Total amount expended	7,913,875	8,260,540	8,317,875	8,337,046	8,440,428

TWENTY-EIGHTH BIENNIAL REPORT
OF THE
Superintendent of Public Instruction.

INTRODUCTION.

In submitting this the twenty-eighth biennial report of the department of public instruction, I am happy to be able to congratulate the people of Iowa upon the renewed and increasing interest in public education manifested throughout the state. At the same time I am, more than ever before, impressed with the gravity of the situation. Our public school interests are woven into the framework of society, like the warp and woof into the texture of the web. "We must educate the people." The maxim admits of no discussion. Upon the kind and character of our schools, depends the growth and perpetuity of the republic. It is true that the maxim is trite, but because it is trite, because no man denies it, it must all the more be reiterated, lest, in the pursuit of pleasure, the turmoil of business, the lust of wealth, men forget its binding force and obligation upon the entire citizenship of the state.

To provide for the education of nearly six hundred thousand children is a work of the greatest magnitude. It is not enough that we spend nearly nine millions of dollars upon our schools. Unless the public can be brought to a right conception of what education is, and what it ought to do for the child, a much less sum would do as well. If to read and write and cipher, the mere elements of common English, is all, then it would seem that children should acquire this education in much less time and at a less expense. But if the public ever come, as they are slowly but surely tending, to regard the public school as a training ground for citizenship, as a place for so equipping the

child that he may earn his own living and at the same time serve faithfully his day and generation, then they will regard the money expended to support the schools which their children attend as the wisest and best investment of the public funds which can possibly be made. Out of the children in our public schools to-day are to come the future rulers of America. What short-sightedness is it then, what supreme folly, to weigh our dollars and cents, the gold and silver which perishes, against the education of our children.

GROWTH OF IOWA SCHOOLS.

The growth of the tree is a perpetual wonder. From its earliest inception in the seed, which finds its lodgment in the ground, until it reaches its full strength and maturity, it is a series of miracles which the most careful student of nature cannot solve. The growth and development of a great state is similar in kind. The emigrant, attracted by an almost unknown force, builds his cabin within its borders. Then he finds a neighbor, although ten miles may lie between them.

As the ships with their white sails plow the ocean, as the patient camel carries his load across the desert, so the white-topped wagons of the emigrant make their paths over the prairie, the vanguard of the mighty host of a coming civilization. The lonely cabin becomes the center of a thriving hamlet. The log schoolhouse is the common property of all, and often the rallying place for religious meetings, the Sunday school and the election. Roads are built, mail routes are established, and the puffing stern-wheel steamer unloads upon the wharf-boat the necessities of civilized life. Soon the tides of commercial life begin to ebb and flow, and new industries furnish a market for the produce of the farmer.

Everywhere there is the energy and strength which produce life. Villages grow into cities, schools become colleges and universities, churches erect stately houses of worship, and civilization lifts up the standard of culture and the graces of humanity in every community. Lo! in fifty years "the little one has become a thousand and the small one a strong nation."

The growth of our schools has kept even pace with the development of Iowa as a state. Tracing them by decades we learn

by contrast what these passing years have wrought. Unfortunately the statistics for 1846 are entirely wanting. We quote however, from a circular of information prepared for the United States Bureau of Education by Prof. L. F. Parker, who has given much careful research to the educational history of Iowa. "When the territory became a state, it contained about 100,000 people, 20,000 persons of school age, 400 school districts, and 100 schoolhouses valued at \$135 each."

In the first ten years of her statehood Iowa built over 1,300 schoolhouses, valued at \$266,000; 2,153 ungraded schools were established. Twenty-five hundred teachers were employed, more than one-half of whom were men. Male teachers were paid \$14.50, and women \$8.25 per month. In point of numbers the men continued to hold their own with women up to 1862.

In 1866 there were 5,900 schools, with 9,343 teachers, of which number about twenty-eight per cent were males. The salary paid men had increased to \$34 per month and of females to \$24. There were then 5,000 schoolhouses valued at nearly \$2,900,000. During that year there were about 242,000 pupils enrolled in the schools. The average school year was only five months.

In the next decade, including 1876, the schools increased to 9,859, or nearly seventy-five per cent. There were 19,000 employed as teachers, of whom over one-third were men. There were 399,000 pupils enrolled. Nine thousand nine hundred school buildings were valued at \$9,376,000, and the school year was lengthened to six and one-half months.

The reports for 1886 show 14,829 schools, with an average year of over seven months. They employed 24,700 teachers, not quite one-fourth of whom were men. Four hundred and eighty-one thousand pupils were on the rolls as attending some part of the school year, which was over seven months in duration. Eleven million five hundred and sixty thousand dollars were invested in 12,444 school buildings and the school expenditures of the state were above \$6,000,000.

The reports for 1897 are not yet tabulated. We avail ourselves of the figures of 1896. In that year there were 28,121 teachers employed, of whom 5,714 were males. The average monthly compensation paid the men was \$38.28 and the women \$32.23 per month. The school year was raised to eight months. Fifteen million eight hundred and sixty-seven thousand four hundred and twenty-five dollars represented the value of 13,686 school buildings. Of the 720,175 persons of school age, 543,052

were enrolled in the schools. The entire amount paid for school purposes was \$8,317,875. These figures are sufficient to show the growth of the schools in the state in point of numbers and in their cost. In many other respects their growth has been still more remarkable.

The earliest settlers of a state must of necessity attend without delay to those affairs upon which they depend to support life. To establish the public school is usually the first attempt of a settlement to act as a social unit. It was so in Iowa. Every year of her existence as a territory saw the free school idea growing in favor with the people. It was not with them what must we do, but rather what can we do, to promote the education of our children.

Academies and colleges were established at an early day. Many of them were ephemeral. Some existed only on paper, others died in the hour of their birth. Yet who can say that the weakest of these did not leave an impress somewhere, and help shape public opinion in favor of higher education?

Iowa had three governors during the eight years that it existed under territorial government. It is worthy of note that the first of these governors in his message urged the adoption of the township as the basis of school organization. It can never be sufficiently regretted that we ever departed from his recommendations.

It was not so much his knowledge of educational affairs, as it was his sound business sense, which led Governor Lucas to see that without proper township regulations, it will be extremely difficult, if not impracticable, to establish a regular school system. The office of superintendent of public instruction was created in 1841 and abolished the following year, against the report of the committee directed to consider the matter. Yet here was the seed from which has grown the necessity for the present office of superintendent of public instruction.

During the years preceding 1846 Iowa had no well matured system of free schools, but the nucleus of such a system existed in the thoughts and intents of the people. Straitened as many of them were by the environments of pioneer life, they could not well then meet a school tax.

The new constitution under which the state was admitted to the union made it the duty of the general assembly to encourage by all possible means the promotion of intellectual, scientific,

moral, and agricultural improvement. The first general assembly took up the matter with an earnestness and faithfulness which succeeding assemblies would do well to imitate.

From 1846 to 1856 was a formative period. There was a marked and constantly increasing trend toward free schools. It was in the hearts of the people of those early days to furnish the best possible education to every child living on the soil of Iowa. No student of pedagogical lore ever expressed the aims of our schools better than Governor Hempstead in his message of 1852. He said:

"The first great object of public schools should be to place within the reach of every child in the state the opportunity of acquiring those indispensable elements of education which shall fit him for the enlightened discharge of the social and civil duties to which he may be called."

That was a grand sentiment when it was uttered. Its grandeur and strength has increased with every decade and to-day it proclaims anew the one great necessity of the hour, the education of all the people. Horace Mann was altogether right when he said, "Educate the people. Educate them in those great eternal principles of justice and right which underlie the entire extent of human exertion." So also J. W. Grimes, a name greatly honored in our history, then governor of the state, said in his message in 1854: "The state should see to it that the elements of education, like the elements of universal nature, are above, around, and beneath all." He continued: "The statistics of the penitentiaries and almshouses throughout the country abundantly show that education is the best preventive of pauperism and crime. Education, too, is the great equalizer of human conditions. Every consideration of duty and policy compels us to sustain the common schools of the state in the highest possible efficiency." Would that the men who frame and make our laws in the legislatures of later days might learn lessons of wisdom and justice from these far-seeing men, the founders of the state, who in their times endeavored to shape and mould the educational policy of Iowa.

The first man to occupy the office of state superintendent was Hon. James Harlan. Venerable in years, renowned for wisdom, loaded with honors both by the state and the nation, his intellect unimpaired and his interest in the welfare of his country undiminished, long may he abide in our midst; late may he

return unto heaven. He, with his successor, Thomas H. Benton, Jr., laid the foundations for our magnificent school fund which now amounts to over \$4,700,000.

For the first ten years of her existence as a state, Iowa had no free school system. In 1856 Governor Grimes appointed Horace Mann, Amos Dean, and F. E. Bissell commissioners to revise the school laws, and their report was made in 1858. Although the report of the commissioners was not adopted, it was the beginning of a new order of things. The odious rate-bill disappeared and the schools were henceforth to be supported by the property of the state. In a word, the schools became free schools open alike to the children of every citizen. We are in need of two amendments to complete the work so auspiciously begun. A free text-book law and a compulsory attendance act. The former we already have in part, the latter is yet to be inaugurated. Both of these are necessary to the growth of our school system, if we expect it to be productive of the highest good. No public school is free in the broadest sense of that term, unless it provides without expense to the pupils everything which is necessary to their progress. Other states are moving in that direction and Iowa should not allow herself to be left behind in the race.

But when the schools are thus supported by the public, what reason can be adduced why children should be allowed to grow up in ignorance of the very elements of education. Yet such is the fact in every city in Iowa. A compulsory law, wisely framed, with reasonable requirements, and vigorously executed, is a necessity which must be met in the near future. The reason for it is found in the acknowledged truth that the most dangerous foe to republican institutions is an ignorant populace armed with the ballot.

There is no question that the commission favored the township system, and they set forth their reasons in strong language. Still the law of 1858 favored the formation of independent districts and at a later date the rural independent district came into existence. It is the old man of the sea clinging to the educational neck of Iowa. There seems to be no possible means of escape from his clutches. Governor after governor, the state superintendents in an unbroken line, prominent educational men, have remonstrated in vain, and in vain have attempted to secure a simpler organization. It will remain rooted in the prejudices of the people, until better ideas of school economy render it odious.

Out of this law of 1858, however, there arise two lines along which the growth of Iowa schools is most hopeful. The first of these is in the direction of higher education by the state. As early as 1849, the Second General Assembly provided that the electors of any district might determine whether a school of a higher grade should be established, the number of teachers to be employed, and the course of study to be pursued therein. The Sixth General Assembly in 1857, alive to the interests of the schools in a growing state, in the chapter which provides for the better regulation of public schools in cities, towns, and densely populated school districts, made it the duty of the board of directors after providing for the primary schools in its district, also made it its further duty to establish in said district a suitable number of other schools of a higher grade or grades, and gave it the power to decide what branches shall be taught in such schools. Two-thirds of the board had power to introduce the study of other languages besides the English. The succeeding Seventh General Assembly in 1858 made most ample provisions for the establishment of county high schools. The act is in many of its features vastly superior to anything we have on our statute books to-day. It is not the purpose of this paper to follow the growth of high schools in the state. We only desire to establish the fact that there can be no question concerning the intentions of the early settlers as to higher education. They had no thought of confining the education furnished by the state to the rudimentary branches. They threw the schoolroom door wide open to every child and then in the spirit of the age took the necessary steps to open the way for a close connection between the common schools and the state university. The children of the rich and the poor, of the learned and unlearned, are alike in the eyes of American law. The state proffers to each and every one not the right to exist as a slave, but the divine right to grow to the full stature of an American citizen, and for this purpose offers the means whereby he may, if he will, obtain the best education which he is capable of receiving. In other words, the state as a matter of high public policy, furnishes the child with the means of making the most he can of himself, because this is necessary to the welfare of society and to the existence of the state. Some one says: "Far above and beyond all special qualifications for special pursuits is the importance of forming into usefulness and honor the capacities which are common to all mankind." The man is the

trunk; the occupations and professions are only different qualities of the fruit yielded. The development of the common nature of the germs of intelligence, uprightness, benevolence, truth, belongs to all. These are necessary in every sphere of life, while special preparation for the field or the shop, for the farm or the desk, for the land or the sea, is but incidental.

The present law, passed in 1862, gives the board of any district the power to establish graded or union schools and to employ a suitable person to superintend them. The constitution authorizes the courses in the collegiate and scientific departments of the state university to commence where the courses in the high schools terminate. It is impossible for the careful student of the educational history of Iowa schools and their growth, to divest himself of the thought that the men to whom under God we are indebted for much which has made Iowa illustrious, intended to establish a system of public education, complete in every part from the primary room to the state university. There has been a marvelous increase since the days when Nestlerode established the first union school at Tipton, and Dennison graded the schools of Muscatine. The growth, however, has reached a point where it needs more stringent and more specific control and direction.

There are many high schools in which the course of study is too heavy. In some cases such courses are maintained at the cost of poor instruction in the lower grades. There are others, in which one instructor, or at most two, must carry along a full four years' work, and of course can do it only in a very superficial manner. The high schools ought to be placed, as in adjoining states, under state inspection and control. This has become absolutely necessary to anything looking to the symmetrical growth and development of our school system. While we claim the undisputed right of the state to maintain and carry on a system of higher education, that right should be exercised with due regard to the character of the instruction afforded, and to the ability of the taxpayers to meet the expenses. The high school is simply a part of the common school, and the less it has in its name and customs which seem to ape the college, the better it will do its legitimate work. But few, comparatively speaking, pass from the high school to the college. Many drop out at the end of the eighth grade, others can spend two years more in school, fewer yet complete the entire twelve years. The work undertaken by the higher grades is all the

more important, because wherever and whenever the child leaves the school, he ought to have attained that strength of character, that integrity and firmness in morals, that intellectual clearness of insight, which will fit him to conquer the temptations, to endure the labors and to solve the problems which throng the pathway of every man's life.

The other line of growth leads in the direction of special preparation for the teacher's work. The necessity for this was seen and acknowledged at a very early date in the history of Iowa. Although for the first thirty years after she was admitted to the union, the state supported no normal school, still the normal school idea is seen to pervade many of the school enactments of the earlier legislatures. The teachers of the state, almost as soon as they were united in the state association, went to work with great vigor to obtain normal schools at public expense. The Second General Assembly authorized the state superintendent to divide the state into three normal school districts and in 1849 a state normal school was opened at Andrew in Jackson county. In 1857 an act was passed authorizing the state treasurer to pay \$1,000 each to the normal schools at Andrew and Oskaloosa. In the act of 1858 provisions were made for educating teachers in the high schools of each county, for the establishment of a normal department in the university, and for the special training in that institution of young men to act as instructors in the high schools. It was evidently the intention of all these enactments to encourage young men and young women to prepare themselves for doing the best work possible in the schools.

The duty of equipping teachers for their work in the public schools belongs primarily to the state for the unanswerable reason that the highest interests of the state are affected by the quality of the instruction given in her schools. It is not that the money paid to an inefficient teacher is lost, for that can be replaced. The children have lost time which can never be reclaimed. They have been robbed of their rightful heritage and they are fortunate indeed if they have not formed habits which will cripple them for life. Nor is this all. Every teacher who enters the schoolroom without special preparation for the work of instruction, who has no high ideal of what a teacher ought to be, helps to lower the general average of citizenship, and thereby renders the state an easier prey to the wiles of the place-hunter and the demagogue.

The future of our school system is dependent almost wholly upon this question of special preparation of teachers. Our state university is fast taking equal rank with the best institutions in the northwest. The chair of pedagogy is ably filled and is producing good results. The state normal at Cedar Falls is exceeding in its usefulness the expectations of its friends. While the agricultural college at Ames is not a part, strictly speaking, of our common school system, yet it sends out annually from its graduates many very competent teachers. The establishment of a chair of pedagogy in that institution ought not longer to be delayed. The normal institutes are an invaluable aid, but if they could be placed under a system of close supervision and inspection by the state their worth to the cause of education could be more than doubled. Still after all, the fact is apparent to everyone that the greatest need of the state is more extended facilities for educating teachers. We must have more normal schools in Iowa and we must fight it out on this line if it takes another generation.

There are other lines of growth, but these are those which in the future will meet the most strenuous resistance. Here the battle for good schools, for universal education, is to be fought. It will be lost or won just in proportion as we are false or true to the spirit of the fathers of Iowa.

The changes contemplated by the code of 1897 are commented upon in another place. I believe however that, if the law is wisely administered, they are such as will conduce to the rapid development of our school system.

IOWA IN COMPARISON WITH NEIGHBORING STATES.

At this period in the history of Iowa, I have thought it useful as a matter of information to incorporate as a part of this report the following tables taken from the report of the United States commissioner of education for 1895-96. They include the statistics from the north central group of states to which Iowa naturally belongs. A careful inspection will show some facts worth our consideration. Thus in the columns showing the average monthly salary of teachers, Iowa is the lowest but one as regards females, and the lowest as regards males. In the number of school buildings Iowa leads, and in the value of

school property she is fifth. She is the third in total revenue for school purposes, and in the amount raised from local taxes. Iowa, Kansas and South Dakota are the only states which levy no state tax for schools. Thus it is readily seen that Iowa stands well up towards the head in every respect except the salaries of teachers, nor is the discrepancy here as great as appears at first sight. Iowa is an agricultural state. It has no cities in which so great a number of males are employed at large salaries as to greatly affect the general average, and the avreage salary paid teachers in Iowa comes very nearly being the average paid rural teachers. However, when we learn that in Iowa the average length of the school year is only eight months, so that in many places it is seven months or less, and that many teachers are employed at much less than the average salary, we cannot wonder that our schools do not accomplish all that we desire of them.

STATE.	AVERAGE MONTHLY SALARY OF TEACHERS.		Number of build- ings used as schoolhouses.	Estimated value of all school property.
	Male.	Female.		
Ohio	\$ 42.00	\$ 39.00	13,072	\$ 40,175,975
Indiana	48.25	40.25	9,890	18,867,494
Illinois	59.76	50.63	12,632	43,765,475
Michigan	46.17	35.09	7,835	16,766,882
Wisconsin	65.27	32.21	6,795	11,100,000
Minnesota	47.30	34.96	6,670	14,271,771
Iowa	38.28	32.23	13,686	15,867,425
Missouri	49.50	42.50	10,076	15,032,082
North Dakota	40.29	34.84	2,032	1,926,420
South Dakota	-----	-----	3,524	3,434,805
Nebraska	44.53	37.58	6,720	8,779,760
Kansas	43.82	35.58	9,418	10,145,631

RECEIPT OF SCHOOL MONEYS.

STATE.	Income from per- manent funds and rents of school lands.	FROM TAXATION.			From all other sources.	Total revenue (ex- cluding balance on hand and pro- ceeds of bond sales).
		From state taxes.	From local taxes.	Total from taxation.		
Ohio	\$ 257,214	\$1,741,649	\$ 9,941,618	\$11,683,267	\$ 532,814	\$ 12,473,295
Indiana	604,056	1,708,008	3,911,440	5,619,448	413,252	6 636,756
Illinois	689,348	1,000,000	13,133,810	14,133,810	812,709	15,635,867
Michigan	312,000	570,081	4,461,875	5,031,956	528,994	5,872,950
Wisconsin	200,000	657,848	8,870,286	4,528,134	518,058	5,246,192
Minnesota	418,172	702,518	3,264,362	3,966,880	480,139	4,865,191
Iowa	235,609	-----	7,456,035	7,456,035	862,751	8,554,395
Missouri	632,386	486,802	5,006,683	5,693,485	48,771	6,424,642
N. Dakota	153,551	154,964	620,903	775,867	88,221	1,017,639
S. Dakota	146,220	-----	1,006,968	1,006,968	186,669	1,339,857
Nebraska	425,000	140,000	2,090,125	2,230,125	591,100	3,246,225
Kansas	420,713	-----	3,331,408	3,331,408	125,345	3,877,466

HIGHER EDUCATION.

As this is the first report from the department of public instruction since Iowa celebrated the semi-centennial of her admission to the union I have thought it proper to present a few statistics which show her relative educational standing among the great states of the northwest. They are taken from advance sheets of the report of the United States commissioner of education for 1895-6, courteously loaned this department for this purpose.

The following summarized statistics of higher education in the north central group of states includes students in undergraduate and graduate departments of universities and colleges, colleges for women, schools of technology, and in professional schools and departments:

STATE.	MALES.	FEMALES.	TOTAL.
Ohio.....	6,450	2,080	8,530
Indiana.....	3,226	800	4,026
Illinois.....	9,252	2,291	11,543
Michigan.....	4,030	1,119	5,149
Wisconsin.....	2,009	590	2,599
Minnesota.....	2,461	740	3,201
Iowa.....	3,020	1,051	4,071
Missouri.....	4,696	1,685	6,381
North Dakota.....	87	44	131
South Dakota.....	272	146	418
Nebraska.....	1,162	579	1,741
Kansas.....	1,648	852	2,500

PROPERTY OF UNIVERSITIES AND COLLEGES IN EACH STATE.

STATE.	LIBRARIES.		Value of scien- tific apparatus.	Value grounds and buildings.	Productive funds.
	Bound volumes.	Pam- phlets.			
Ohio.....	404,296	77,321	\$ 864,400	\$ 7,507,038	\$ 7,592,177
Indiana.....	187,840	10,250	344,000	4,047,422	1,977,643
Illinois.....	519,647	112,774	841,700	8,060,338	8,993,605
Michigan.....	206,367	69,096	948,350	2,111,793	1,601,292
Wisconsin.....	116,146	24,245	654,200	2,276,000	1,422,862
Minnesota.....	85,130	20,750	235,800	2,682,740	1,609,751
Iowa.....	146,670	21,100	355,772	2,506,765	1,543,171
Missouri.....	154,162	41,597	402,200	4,455,000	3,454,839
North Dakota.....	7,300	2,500	28,000	208,000	30,000
South Dakota.....	14,893	4,061	23,300	429,050	89,485
Nebraska.....	63,460	6,197	205,866	1,827,000	1,271,184
Kansas.....	92,521	16,705	247,900	1,731,000	556,000

PROPERTY OF SCHOOLS OF TECHNOLOGY.

STATE.	LIBRARIES.		Value of scien- tific apparatus and libraries.	Value grounds and buildings.	Productive funds.
	Bound Volumes.	Pam- phlets.			
Ohio.....	1,000	-----	\$ 75,000	\$ 425,000	\$ 2,000,000
Indiana.....	14,739	4,297	300,000	555,000	860,000
Illinois.....	15,000	-----	438,000	500,000	1,500,000
Michigan.....	30,348	6,700	186,761	457,736	547,279
Iowa.....	11,000	2,000	110,000	376,000	681,034
North Dakota.....	2,782	600	15,514	100,500	-----
South Dakota.....	4,831	9,443	29,000	130,000	-----
Kansas.....	16,376	5,300	125,000	265,000	502,352

STATISTICS OF UNIVERSITIES AND COLLEGES.

NAME.	LIBRARY.		Value of scientific apparatus and library.	Value of grounds and buildings.	Productive funds.	From tuition fees.	From productive funds.	From state or municipal appropriations.	INCOME.		Total income.
	Bound volumes.	Pamphlets.							From United States government.	From other sources.	
S. U. of Wis.---	38,000	12,500	\$ 500,000	\$1,250,000	\$ 450,000	\$ 30,000	\$ 22,500	\$ 282,000	\$ 37,000	\$ 28,500	\$ 400,000
S. U. of Ill.---	28,500	6,200	175,000	620,000	453,996	22,171	24,713	333,300	36,000	28,409	444,593
S. U. of Minn.---	44,000	17,000	135,000	1,587,000	1,174,067	53,500	51,838	110,071	37,000	16,000	268,469
S. U. of Iowa---	42,000	-----	200,000	460,000	280,000	56,269	16,234	65,500	-----	-----	138,008
S. U. of Mo.---	25,126	30,122	136,500	898,000	1,226,839	14,208	61,476	77,577	34,858	7,062	195,181
S. U. of Kan.---	25,000	-----	200,000	400,000	235,000	410	8,000	108,000	-----	-----	116,410
S. U. of Neb.---	33,877	-----	150,000	700,000	1,000,000	2,870	60,000	63,572	36,000	7,000	169,442

STATISTICS OF UNIVERSITIES AND COLLEGES IN IOWA.

STATISTICS OF UNIVERSITIES AND COLLEGES IN IOWA.

LOCATION.	NAME.	Year of opening.	Religious denomination controlling.	STUDENTS.												TOTAL NUM-BER.	
				PREPARATORY DEP'T.		COLLEGIATE DEP'T.		GRADUATE DEPARTMENT.				PROFES-SIONAL DEP'TS.					
								RESIDENT.		NON-RESIDENT.							
				Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Cedar Rapids.	Coe College.	1881	Presb.	17	31	40	39	—	—	—	—	—	—	57	71		
Charles City.	Charles City College.	1891	M. E.	32	13	2	2	—	—	—	—	3	—	89	56		
Clinton.	Wartburg College.	1868	Luth.	46	1	22	—	—	—	—	—	—	—	68	1		
College Springs.	Amity College.	1855	Nonsect.	98	108	24	15	—	—	—	—	—	—	122	123		
Decorah.	Luther College.	1861	Luth.	120	—	80	—	—	—	—	—	—	—	200	—		
Des Moines.	Des Moines College.	1865	Bapt.	42	45	52	25	—	—	—	—	—	—	94	79		
Des Moines.	Drake	1890	Christian	179	95	86	64	4	1	—	—	264	39	506	314		
Fairfield.	Parson	1876	Presb.	35	23	58	34	—	—	—	—	—	—	93	57		
Fayette.	Upper	1857	M. E.	179	90	96	47	—	2	1	2	—	—	276	141		
Grinnell.	Iowa	1847	Cong.	103	96	118	91	4	1	8	3	—	—	231	245		
Hopkinton.	Lenox	1858	Presb.	19	20	38	41	1	—	—	—	—	—	58	62		
Indianola.	Simps	1867	M. E.	83	54	40	26	—	—	—	—	—	—	235	245		
Iowa City.	State	1855	Nonsect.	—	—	339	158	28	19	18	10	784	32	1093	214		
Mt. Pleasant.	German College.	1873	M. E.	3	4	3	—	—	—	—	—	15	—	21	4		
Mt. Pleasant.	Iowa Wesleyan University	1844	M. E.	56	31	64	57	—	—	—	—	—	—	146	194		
Mt. Vernon.	Cornel	1857	M. E.	157	135	168	109	2	1	—	—	—	—	327	245		
Oskaloosa.	Oskalc	1862	Christian	23	30	18	6	—	—	—	—	—	—	41	35		
Oskaloosa.	Penn	1872	Friends	66	52	51	45	—	—	1	1	14	—	124	131		
Pella.	Central University of Ia.	1853	Bapt.	—	—	—	—	—	—	—	—	—	—	83	76		
Sioux City.	Morningside College.	1890	M. E.	125	55	43	23	—	—	—	—	—	—	168	78		
Storm Lake.	Buena Vista College.	1891	Presb.	8	4	5	3	—	—	—	—	—	—	65	49		
Tabor.	Tabor College.	1866	Cong.	62	59	31	15	—	—	—	—	—	—	93	74		
Toledo.	Western College.	1856	U. B.	65	38	29	23	—	—	—	—	—	—	94	61		

It is impossible to name the institutions which exercise the right to confer degrees in Iowa. There is need of a legal definition of what constitutes a standard college. The Pennsylvania law provides as follows:

“No institution shall hereafter be chartered with power to confer degrees unless it has assets amounting to \$500,000 in buildings, apparatus, endowments for the exclusive purpose of promoting instruction, and unless the faculty consists of at least six regular professors who devote all their time to the instruction of its college or university classes,” and that “no baccalaureate degree in arts, science, philosophy or literature be conferred upon any student who has not completed a college or university course covering four years.”

As Pennsylvania is older and more wealthy such a restriction would seem too stringent for Iowa, but there should be some provision of law limiting the power to confer degrees. I have no disposition to discredit the work done by the smaller and younger colleges; they are a blessing to the community in whose midst they are located. There should be no legislation to hinder them in their work. Such a provision however, would prove a blessing to this class of colleges because it would stimulate their friends to so increase their endowments as to bring the funds and the professional work up to the required standard. At the same time it would protect them and the stronger and older colleges and universities against the competition of a class of institutions which have no foundation entitling them to the right to confer degrees. Such a statute would raise the standard of Iowa degrees and make them worth striving for by all young men and women. It would also give to the degrees conferred by our institutions a value and standing in other states which at present they do not possess. While it is not the province, as it is not desirable, for the state to aid denominational colleges or to interfere with their management, the state might in some such way as here indicated recognize their worth and give them a protection for which I believe they would be most grateful.

STATE EDUCATIONAL INSTITUTIONS.

There are but three institutions under state care in Iowa, which are strictly educational in their functions. To say that these institutions which are provided as the means of advancing the education of our children are a burden upon the taxpayers, leeches upon the public purse, that they conspire and combine to loot the state treasury, is an evidence either of wickedness or of weakness, and sometimes of both. Every cent the state has expended upon these institutions of learning is a permanent investment, the interest of which will accrue to the benefit of future generations. We must educate the people. It can only be done by educating the children. Grown up men and women are beyond the reach of the schools. The state cannot provide too generously for those whose minds are in a formative period. Only by so doing can life be made more tolerable for our children, and the next generation be placed on a higher plane than this. The spirit which prompts the friends of education to urge upon the legislature the justice and wisdom of providing promptly and generously for the wants of these institutions is that of an intelligent people making provision for the future welfare of their children. The increased growth of the state in population will call for increased expenditures in supporting schools. The man who does not understand and appreciate this, lacks the very first elements of statesmanship. Does it pay in dollars and cents to support these schools?

Without attempting to demonstrate the affirmative to this question, I am permitted to quote the following from an article by Dr. Harris, the United States commissioner of education:

It is surprising to the person who has not become familiar with the facts to learn that the total number of years' schooling that each person on an average is getting in the United States is only four and three-tenths, nearly four years of this being furnished by public, and less than six-tenths years by private schools. But the amount that Massachusetts is giving is six years and eighty-six hundredths, or two and one-half years more than the general average.

The total production of the labor of the people of the United States for 1880 was about forty cents apiece per day for each man, woman, and child; but the production of Massachusetts with its average of seven years of schooling for each inhabitant was nearly double that of the average for each inhabitant of the whole nation. I have made on different bases three estimates, using the data given by Col. C. D. Wright in his census of the state for 1885. The lowest estimate gives sixty-eight per cent more than the national average, the second eighty-four per cent; the third and best one exactly one hundred per cent. The population of Massachusetts is four

percent and its production is eight per cent of that of the whole nation. Who that looks at modern productions of industry and considers how much of it is due to machinery for its management on alert and educated intelligence, can fail to see the relation of the schools of Massachusetts to its phenomenal production of the items of wealth?

No one who studies statistics in connection with the history of any state can deny that it pays to educate the wage earner not alone from a philanthropic, but also from an economic, standpoint. There is, however, an argument stronger than this. The future rulers of America, the men who are to mould our politics and shape the policy of the nation during the first half of the twentieth century are the children of the laboring classes; of the men who are earning their living and the means of educating their children by their daily toil. Better than riches for our children is the inheritance of a land in which life and property are secure; a land in which dwells a people in the full enjoyment of an enlightened and educated liberty.

The experience of the past two years convinces us that it would be wise to inaugurate the policy of erecting only fire-proof buildings hereafter at these institutions. The security of life and property, the preservation of valuable collections and expensive apparatus would compensate the state, many times, for the extra cost of such buildings. In addition to this every new building at a state institution should be such as to advertise the greatness, the growth, the liberality of Iowa. Moreover, we must build for the future. It is false economy, it is a waste of public funds, to erect cheap, inexpensive buildings hardly adequate to meet even the pressing wants of the present year. It is time for Iowa to adopt the broader policy of administering the affairs of these institutions so as to aid the development of her vast resources along all lines of growth, looking to the future while she plans generously for the present.

STATE UNIVERSITY.

The great loss to the university through the destruction of its library by fire will seriously cripple the usefulness of the institution unless it is repaired as rapidly as possible. Reference is especially made to the report of the regents to the governor of the state, and to the recommendations contained in it. No modern university, however, can hope to attract students unless it can offer them the best possible facilities for reading, for reference, and for original investigation. On another page under the head of Higher Education, can be found a table taken

from the report of the United States commissioner of education for 1895-6, showing the relative standing of the libraries in those institutions with which our university is brought into closest competition.

We live in an age of books. Very much of the education which our children receive is the result of original investigation and research. More than that the age is progressive. New discoveries and inventions in the arts and sciences are constantly coming to light. Literature drinks in the same spirit of the age, and new estimates are placed upon historical writings, as well as upon poetry and fiction. A library which twenty years ago was thought amply sufficient to meet the wants of the students, unless it has been plentifully replenished, would to-day be considered antiquated and almost useless.

The library is the heart of the university, to paralyze it is death. Its throbs are felt in all departments, and every student gathers strength and inspiration from the lifegiving influences which flow from this central fount. The duty of the present is to build the library up, year by year, through generous appropriations, and at the earliest possible date to put it into a fire-proof building, beyond all reach of destruction by that element. The state university of Iowa, in spite of limited means, is achieving a most gratifying reputation for itself. But as long as it is deficient in appliances for instruction, apparatus for illustration, and in comfortable, wholesome recitation rooms, our young people will seek out of the state the advantages which they cannot find at home. The shortsighted policy which drives our young people away from Iowa to obtain a liberal education is neither economical nor wise. Sometime the people of the state will realize it, and then they will demand the inauguration of a more liberal policy, at the hands of the legislature. The law of 1896 giving the university the benefit of a tax of one-tenth of a mill for five years was a step in the right direction. The university needs permanent funds. The tax of one-tenth of a mill is a burden upon no one, yet it yields a sum which, in the aggregate, is a great help to the university. The limit of five years should be extended at least to ten.

Iowa does not want a university which is such only in name. It is a wasteful policy to give it only enough from time to time to keep it alive. There is an economy which tendeth to poverty. It is that which deprives our young people of the means

A handwritten signature in black ink, reading "J. L. Pickens". The signature is written in a cursive style with a large, looping initial "J" and a distinct "L".

PRESIDENT IOWA STATE UNIVERSITY, 1878-1887.

of gaining a desired education at home or forces them to seek it in the institutions of neighboring states.

As a matter of history we append a list of those persons who have held the office of president of the university:

Dr. Amos Dean, 1855-58.

Dr. Silas Totten, 1860-62.

Dr. Oliver M. Spencer, 1862-67.

Prof. N. R. Leonard (acting), 1866-68.

Dr. James Black, 1868-70.

Dr. George Thacher, 1871-77.

Hon. Christian W. Slagle, 1877-78.

Dr. Josiah L. Pickard, 1878-87.

Dr. Charles A. Schaeffer, 1887-.

Dr. J. L. Pickard is the only ex-president living. He resides at Iowa City, in quiet seclusion, and yet exerting a strong influence for good in the community, and among the students of the university.

THE NORMAL SCHOOL.

I do not feel that there is any danger of commending too highly the work done at the state normal school. While special reference is made to the report of the trustees of that institution to the governor of the state, it is proper to add in this connection that the appropriations asked for are only such as are imperatively demanded by the interests of the school. It is the only state normal school in Iowa. Pupils come to it from nearly every county in the state. Its graduates are in constant demand as teachers in our graded schools. The larger proportion of its students who cannot remain to graduate, go out into our common schools, instructed in the best methods and inspired to do better work. The first board of trustees was organized June 7, 1876, with Hon. H. C. Hemenway as president. At that time the board of the Soldiers' Orphans' Home turned over the property as required by the act of the Sixteenth General Assembly. At the same time Prof. J. C. Gilchrist was elected as principal. The first term opened September 6, 1876, with an enrollment of twenty-seven students. Of the faculty as composed at that time, two members, Prof. M. W. Bartlett and Prof. D. S. Wright, still retain their connection with the school. Miss Anna E. McGovern has also been connected with the school since its foundation, either as student or teacher. Pres. J. C. Gilchrist died August 12, 1897, at Laurens, in this state,

full of years and good works. An appropriate obituary notice of him will be found in another place in this report.

The summary at the end of the catalogue for 1876-77 shows an attendance of males, 50; females, 105; total, 155; with four members of the faculty. The attendance during the fall term of 1897 is nearly 1,500, and the faculty has increased to 34. The secret of this growth is because there is a demand for teachers who are trained for their work. The state will continue to increase in wealth and population. There is no possible way to stop it. To say that Iowa is too poor, that taxes are too high, that we cannot afford to meet increased demands, does not fill the conditions which confront the state. The school is to-day working up to its full limit. Without larger appropriations there can be no increase in its usefulness. The school speaks for itself through its history. It has a body of alumni, the larger part of whom remain in the state, and they are making their influence felt as an educational force among the people in our district schools. I know, from an intimate acquaintance with the work of this institution, what it is worth to our schools, and so I honestly and conscientiously commend it to the favorable consideration of the general assembly.

The following table shows the number of graduates each year since the school was established:

GRADUATES IOWA STATE NORMAL SCHOOL.

1876-77.....	4	1887-88.....	31
1877-78.....	21	1888-89.....	53
1878-79.....	22	1889-90.....	65
1879-80.....	30	1890-91.....	79
1880-81.....	35	1891-92.....	107
1881-82.....	37	1892-93.....	128
1882-83.....	16	1893-94.....	147
1883-84.....	13	1894-95.....	129
1884-85.....	30	1895-96.....	136
1885-86.....	19	1896-97.....	127
1886-87.....	25	Total.....	1,254

Of the graduates of the school, 514 are at present teaching in Iowa; 81 are teaching in other states and elsewhere; 95 are students in universities and colleges. Most of these are teachers who expect to resume that work after a year or so of study; 98 have abandoned teaching and gone into other work, but all of these persons have taught more or less since graduating. One hundred and seventeen are on the retired and married list.

SOUTH HALL.

CENTRAL HALL.

NORTH HALL.

PRESIDENT'S HOUSE.

IOWA STATE NORMAL SCHOOL, CEDAR FALLS.

These persons are also teachers and many of them have taught five or more years since receiving their diplomas. Deceased 21, unknown 8. This makes a total of 934. The full number of graduates is 1,254. This difference is explained by the fact that a large number have finished both the three years' and four years' courses of study, and have graduated in two classes.

In addition eighty-eight have received certificates in the primary teachers' course. Four of these are married and not teaching; four are students in other schools; three are teaching outside of Iowa, and the remaining seventy-seven are teaching in the public schools in this state.

This, however, does not measure the full usefulness of the school, as by far the larger number of those who attend leave before the completion of their course to teach in the country schools, or in those of the smaller villages.

The buildings, as well as the library and apparatus, of this school ought not to be useless to the state during one-fourth of the year. The following is taken from the report of the committee on rural schools to the national educational association:

There should be a summer term for rural school teachers in every normal school in the United States. The plant of the normal school has cost thousands, in some cases hundreds of thousands of dollars, and for two or three months in the summer this investment remains entirely unproductive. The success of the summer term in the University of Chicago is significant, and the plan adopted this year in all the state normal schools of Minnesota, sets the example for the nation.

Something of this kind was successfully attempted at Cedar Falls last summer, and plans are in process of formation to increase its usefulness in 1898. It ought to receive substantial encouragement from the state by way of an appropriation, so that the cost of attendance may be reduced to a minimum to those who desire to avail themselves of its privileges.

The object has been to keep the normal school in close touch with the educational wants of the state. The president, as well as the entire faculty, has kept this continually in mind. As a consequence much attention is paid to the best methods of instruction in the common English branches. Its influence is felt in the country as much as in the graded and high schools. This is as it should be, for this is the purpose for which the school was established.

The library of the school is a necessary adjunct, and needs continual replenishing. The students avail themselves of its privileges, and make it a means of improvement and growth.

A large proportion of the young men and women in this school come from the farms and the smaller country villages. They are not rich in this world's goods. It is not unusual to find a student who attends until his money is expended and then teaches a year or more and earns the funds with which to finish his course. Is not Iowa, with the proud record of fifty years of statehood behind it, wealthy enough to sustain one normal school, without compelling these young men and young women to contribute to its support, in the shape of tuition and contingent fees? In the mind of every intelligent citizen this question ought to answer itself.

THE AGRICULTURAL COLLEGE.

Of these three institutions the agricultural college at Ames has no connection with this department. Hence we can only say that from all we gather concerning it, and from a personal acquaintance with its officers, we believe it deserves to be treated generously by the state.

The establishment of a chair at Ames for the purpose of training teachers for their work has been frequently and favorably commented upon by those who realize how strong an aid such a professorship, if worthily filled, would be to our educational forces. The arrangement of the terms at the agricultural college is such as to give students the best possible opportunity of teaching during the winter term. Many avail themselves of this privilege. Instruction in the science and art of teaching would be of the greatest possible benefit to them in their work.

STATE BOARD OF EXAMINERS.

In compliance with the requirements of the statute the following statement is appended showing the time and place of holding examinations since the last biennial report; a list of all applicants to whom diplomas or certificates have been granted, with date of issue; a classified statement of the number of applicants at each examination, a statement of fees received and expenditures by the board, and to whom warrants on the

board's expense fund have been issued. A careful scrutiny of the tables will show that fees received have exceeded by several hundred dollars the sum set apart for the expenses of the board.

The board has not yet had time to consider the features of the code of 1897, giving it power to issue primary certificates, and also to recognize certificates and diplomas issued in other states. It will require very careful thought to frame such rules and regulations as will make the primary certificate worth striving for. It should be granted only to those who, by special study and preparation, together with a long and successful experience, have proved themselves worthy such an honor. In addition to these requirements the primary teacher should possess a general all-round education, with quick perceptive powers, a knowledge of child nature, and a love of children.

So in regard to recognizing papers issued in other states. The board will undoubtedly require the fullest proof of moral character, and success in teaching, from applicants offering such credentials.

There is a growing disposition to recognize the value of certificates issued by competent authority in other states. The tendency of this is to place teaching upon the same plane as the profession of medicine or law. The law is not mandatory but permissive. The board, if not satisfied upon these points, may require a certain amount of experience in Iowa. It is to be hoped, however, that the board will not forget that as these new features of the law give them greater powers, they also devolve upon the examiners greater responsibilities.

STATE DIPLOMA.

The state diploma is intended as a recognition of professional standing attained by long and successful experience. It is the presumption that those who hold these diplomas have entered upon teaching as a life work and are devoting all their energies to the practice of their profession. The state diploma is received in any county of the state as an evidence of ability to instruct the children and youth. The fee, as fixed by law, is \$5.00, one-half of which is returned to the candidate in case of failure. Lists of old questions are not sent to applicants.

GENERAL DIRECTIONS.

1. In his registration blank the candidate will be required to certify to the fact that he has taught or studied the branches required by law for a state diploma.

2. He must produce evidence that he has been engaged in teaching at least eight years, three of which have been in Iowa within recent date.

3. He must satisfy the board that he has a thorough knowledge of the subjects required for a state certificate.

4. The board will reserve the right to require an examination for state certificate in all cases before application can be made for state diploma.

5. He must be a resident of Iowa at the time of application.

6. The registration blank and the thesis must be filed with the president of the board at least thirty days before the date fixed for examination.

7. The thesis must, in every case be in the *handwriting of the applicant*, and should be between three and four thousand words in length.

8. The thesis will be examined by such persons as the board may designate and will be marked on the following points:

a. Choice and arrangement of subject matter.

b. English language.

c. Thought and expression.

d. General appearance of paper.

9. It will assist the board in reaching a satisfactory conclusion, and will be of material benefit to the applicant if he files:

a. Documentary evidence from standard reputable educational institutions certifying to the special scholarship of the applicant. The standing which the candidate attained in such institution, if certified to by the proper officer, may also be submitted.

b. Documentary evidence showing the ability of the applicant to teach said required subjects.

c. Documentary evidence showing the unqualified success and ability of the applicant as a superintendent, principal or teacher. This evidence should be of as recent date as possible.

d. The names of three persons at present engaged in educational work, to whom the board may write for further information if necessary.

10. Candidates for state diplomas shall pass examination upon all branches required by candidates for state certificates, and in addition thereto in geometry, trigonometry, chemistry, zoology, geology, astronomy, political economy, rhetoric, English literature, general history, science and art of education, history of education, psychology, and didactics, and such other branches as the board of examiners may require.

I. GRADUATES OF STANDARD COLLEGES.

Requirements of candidates who have taken a course of study equivalent to that prescribed in the collegiate department of the state university of Iowa.

1. File registration blank and fee.

2. File diploma and course of study taken.

3. File thesis in own handwriting on a professional subject selected by the president of the board.

4. Appear for examination at a regular meeting, and pass examination in two subjects selected by himself from the group of subjects required by law for state diplomas. The president should be notified of the subjects chosen, at the time the thesis is filed.

5. The board may also, at its discretion, require an examination purely professional in its nature.

II. CANDIDATES NOT COLLEGE GRADUATES,

but who have attained excellent rank as educators and have held an Iowa state certificate, or a paper of equal rank.

1. File registration blank and fee.
2. File thesis in his own handwriting on a professional subject selected or approved by the president of the board. This thesis must be filed thirty days before the board meeting.
3. Take such examinations in at least three subjects required by law for state diplomas, as the board may designate.

III. OTHER CANDIDATES

who do not apply under either I or II of this circular.

1. File registration blank and fee.
2. File thesis on a professional subject selected or approved by the president of the board, said thesis to be filed thirty days before the meeting of the board.
3. Take such examinations in the subjects required by law for state certificates and state diplomas, as the board may designate.

GENERAL. APPLIES ONLY TO II AND III.

Candidates who wish to inform themselves of what will be exacted may make application for said information at the semi-annual meeting of the board previous to the time of taking said examination, by complying with numbers 1 and 2.

In all papers great importance will be attached to the use of the English language.

DATES FIXED FOR EXAMINATIONS FOR STATE DIPLOMAS, 1897.

June 24 and 25, at State Capitol, Des Moines.

December 28 and 29 at time of State Teachers' Association.

NOTE—Graduates from the state normal and state university desiring information, should apply to the institution from which they graduated.

All other official correspondence for the board must be with the president.

HENRY SABIN,
President Board of Examiners.

STATE CERTIFICATES.

I. EVIDENCES OF SCHOLARSHIP.

As evidence of scholarship the candidate must file his last county teacher's certificate and such diplomas as he may possess. He must designate three persons of standing as educators who can vouch for his scholarship, and to whom the board can apply thirty days before the examination, for personal official information.

II. WRITING OF ESSAY.

The candidate must write an essay in one and one-half hours at the time of the examination upon some topic in didactics that will exhibit his professional experience and ability as an educator, the topic being assigned by

the examiner in charge, his selection being determined by the applicant's experience.

III. WRITING OF PAPER.

The candidate will also be assigned a topic in U. S. history at the time of the examination, on which he must write a paper to be completed in one and one-half hours. This paper must be written without delay, and cannot be copied. This will complete the examination in U. S. history, orthography, penmanship, and English language, provided the other papers do not discredit the qualifications of the applicant in the English language.

IV. TESTIMONIALS AND CREDENTIALS.

1. Each candidate must file written official statements, *prepared expressly for the board*, certifying to the professional success and good moral character of the applicant. These must be from:

a. One or more county or city superintendents or other professional educators who know the applicant and under whose supervision he has taught.

b. One or more school boards or directors for whom the candidate has taught, covering a period of three years' actual teaching.

2. To be assured that the candidate is successful in instruction and in government, the board will hold the right to investigate further until satisfied.

V. LENGTH OF EXPERIENCE AND VALUE OF CREDENTIALS.

1. Three years' actual experience as a teacher, of not less than thirty weeks in each year, is required before the board will issue a certificate. Part of this time must be in Iowa, and the applicant must be a resident at the time the examination is taken.

2. The possession of a diploma from an approved college or state normal school may, at the option of the board, be accepted in the place of a part of the examination in scholastic subjects. To request any such modification requires the filing of the application, the fee of \$3 and the credentials at least ten days before the semi-annual meeting of the board.

VI. PROGRAM OF EXAMINATION.

The candidate must pass an examination according to the following arrangement of subjects and time:

GROUP 1.—Grammar, Reading, Geography.

GROUP 2.—Civics, Economics, School Laws of Iowa.

GROUP 3.—Arithmetic, Algebra, Bookkeeping.

GROUP 4.—Physiology, Botany, Physics, Drawing.

TIME SCHEDULE.

FIRST DAY.

A. M.—8:00 to 9:30—Essay on U. S. History.

9:30 to 12:00—Group 1.

P. M.—1:30 to 3:00—Didactics.

3:00 to 5:00—Group 2.

SECOND DAY.

A. M.—8:00 to 12:00—Group 3.

P. M.—1:30 to 4:30—Group 4.

VII. OTHER SUGGESTIONS.

1. Candidates are advised to arrive the day before, as allowance cannot be made for late arrival, delayed trains, or for being out of physical and mental condition due to sickness or night travel.

2. The examination in each subject will be restricted to the published program as to time.

3. All necessary material will be furnished each candidate at the time of the examination.

4. The board will reserve the right to require an examination for state certificate in all cases before application can be made for state diploma.

5. Lists of old questions are not sent to applicants.

6. In case of failure one-half the fee will be returned to the candidate.

7. Chapter 2, Title 13, of the Code, will supply much information not possible to include within this circular.

DATES FIXED FOR EXAMINATIONS FOR STATE CERTIFICATE, 1897.

June 24 and 25 at State Capitol, Des Moines.

June 2 and 3 at State Normal School, Cedar Falls.

June 4 and 5 at Cornell College, Mt. Vernon.

December 28 and 29 at time of State Teachers' Association.

The semi-annual business meeting of the board will be held June 23.

NOTE.—Graduates from the state normal and state university desiring information should apply to the institution from which they graduated.

All other official correspondence for the board must be with the president.

HENRY SABIN,
President Board of Examiners.

STATE CERTIFICATE.

SUGGESTIVE OUTLINE FOR PREPARATION.

The scope of examination will correspond with subject matter of the ordinary text-book. The following syllabus is printed in order to emphasize certain points and to indicate along what lines the candidate should study in preparation for the examination for state certificate.

HENRY SABIN,
President Board of Examiners.

The state law provides that candidates for state certificates shall be examined upon the following branches: *Orthography, reading, writing, arithmetic, geography, English grammar, bookkeeping, physiology, history of the United States, algebra, botany, natural philosophy, drawing, civil government, constitution and laws of Iowa, and didactics.*

Elementary civics and elementary economics will hereafter be substituted in place of civil government, to correspond with the requirements of the law as it now exists governing county certificates.

Note that the most essential branches in the above list are those printed in italics.

Many failures occur in papers on arithmetic and algebra. For these there is a reasonable length of time will be allotted within which candidates be expected to finish all the required work. It is commonly observed that those who write English well, and whose work is clear, concise, and correct, are very likely to merit a good marking in the other essentials.

ARITHMETIC.

Definitions. Notation and numeration.
The four fundamental processes. Fractions, common and decimal.
Fractions.
Properties of numbers. Ratio and simple proportion.
Involution; square root; cube root. Practical measurements.
Applications of percentage in which time is not an element.
Interest and discount.

ALGEBRA.

The knowledge of algebra required can be obtained from any elementary textbook on the subject.
Definition of terms, and use of signs.
Addition, subtraction, multiplication, division. Integral quantities; fractional quantities.
Factoring; greatest common divisor; least common multiple.
Exponents. Integral, numerical and literal; fractional; positive and negative; zero powers.
Simple equations. Kinds; methods of elimination; reductions.
Powers and roots. Involution of monomials, binomials, polynomials; expansion of binomials (with or without numerical co-efficients) by the binomial theorem; square and cube roots.
Radical quantities. Reductions; combinations.
Quadratic equations. Pure or affected; methods of elimination; completing the square; reductions.

ELEMENTARY CIVICS.

The Handbook for Iowa Teachers, edition of 1895, contains sufficient material, if mastered, to enable an applicant to pass the examination in civics.
The different kinds of government.
The constitution of the United States. Provisions; principles.
The constitution of the state of Iowa. Comparison with the national constitution as to main features.
The three departments of national and state government.
Officers; how chosen; eligibility; length of term; duties; extent and limitations of power.
Government of the counties, cities and towns of the state of Iowa.
Citizenship; how acquired; privileges; duties.
Electors; qualifications.

ELEMENTARY ECONOMICS.

Money defined.
Conditions of wealth.
The law of supply and demand.

Common property.

Capital. Credit. Interest.

Labor. Competition.

Duties to the state; to society; to the family; to each other.

Co-operation and profit sharing.

NATURAL PHILOSOPHY.

The properties of matter.

The mechanical powers.

Laws and effects of the pressure of liquids and gases.

More prominent laws of sound, heat, light, electricity, and their applications.

Explanation of ordinary physical phenomena

DIDACTICS.

Candidates should be able to distinguish between the analytic and the synthetic methods of instruction, and to state under what circumstances each is applicable. They should possess such a knowledge of the classification and order of development of the intellectual powers as may be obtained by the study of any elementary work upon pedagogy. The examination will embrace questions upon methods of instruction in the various branches taught in the common schools, and reasons for division by class-work, recitation, instruction, drill, application.

Among the books specially recommended are the following: Swett's *Methods*, Hewett's *Pedagogy*, White's *School Management*, Howland's *Hints to Teachers*, Page's *Theory and Practice*, King's *School Interests and Duties*, Patrick's *Pedagogics*, Arnold's *Waymarks for Teachers*.

PHYSIOLOGY.

The effects of alcoholic stimulants and narcotics, as required by section 2736, must be studied in close connection with each of the several portions of this subject.

The skeleton.

Respiration.

Muscular system.

Excretion.

Mastication and digestion.

Nervous system.

Circulation.

Organs of special sense.

BOTANY.

Plants. Species; affinities; distribution. Relation of plants to external agencies. The plant-cell; general statement; composition; formation; markings; leaf growth; formation of buds.

Flowers. Essential organs; their attributes; typical flowers.

Fruits. Propagation of plant life, food and sustenance of animal life.

DRAWING.

Free-hand drawing. Definition and description.

Complementary colors.

Drawing to represent some object, as an inverted cone or cylinder.

Drawing from object placed by the examiners at the time of the examination.

Methods of teaching drawing.

UNITED STATES HISTORY.

An essay upon some topic similar to the following:

A comparison of the settlement and subsequent history of Maryland and New York.

The history of four great reform movements in the United States.

Sherman's campaigns during the civil war.

The amendments to the constitution.

Four characters of the civil war.

Customs, religion and laws of colonial times.

The United States since 1865.

History of Iowa.

SINGLE ENTRY BOOK-KEEPING.

Definitions of terms.

Forms. Ruling forms of day-book, ledger, cash-book, sales-book, bill-book. Writing standard forms of promissory notes, checks, drafts, indorsements, receipts, invoices, bills. Customary abbreviations and conventions.

Entries. Original entries of debits and credits in the day-book; of receipts and payments in the cash-book; of sales in the sales-book; of bills receivable and bills payable in the bill-book. Posting to ledger.

Balances. Cash balance, or balancing cash account; balancing ledger accounts; balance sheets, showing present condition of the business.

SCHOOL LAW.

The edition of school laws of 1897, in the hands of every school officer, and the new Code, are the best available means of study.

Districts. Four forms and their leading differences. How each kind may be organized. How boundaries may be changed. How subdivided for school purposes.

Electors. Qualifications of. Meetings of, regular and special. Powers of, in each variety of district.

Officers. Superintendent of public instruction. County superintendents. Boards of directors. Those chosen by the board. Qualifications, powers and duties, of each in particular.

Teachers. Their qualifications, powers, special duties, rights, and liabilities.

RENEWAL OF STATE CERTIFICATES.

I. HOLDERS OF STATE CERTIFICATES

that procured them upon examination.

1. The applicant is required to fill out the application blank furnished by the department of public instruction and to pay the fee for said examination.

2. The applicant is required to file the following credentials:

a. Testimonials from his superintendent certifying to his present success in instruction and in government, and also to the fact that his present

STATEMENT

*Showing record of examinations held by the State Board of Examiners,
together with fees received.*

CERTIFICATES.

PLACE OF HOLDING EXAMINATIONS.	DATE OF CER- TIFICATES.	NUMBER OF APPLI- CANTS.		CERTIFI- CATES GRANTED.		Number failed.	Fees received.
		Males.	Females.	Males.	Females.		
Cedar Falls.....	Jan. 1, 1896	2	8	2	8	....	\$ 30 00
Des Moines.....	Jan. 1, 1896	24	19	19	14	10	114.00
Cedar Falls.....	July 1, 1896	34	63	34	63	....	291.00
Mt. Vernon.....	July 1, 1896	6	5	6	4	1	31.50
Burlington.....	July 1, 1896	2	22	2	22	....	72.00
Des Moines.....	July 1, 1896	16	11	13	8	6	72.00
Iowa City.....	July 1, 1896	5	2	5	2	....	21.00
Sioux City.....	Aug. 1, 1896	9	4	4	3	6	30 00
Des Moines.....	Aug. 1, 1896	6	16	3	6	13	46 50
Des Moines.....	Renewals	5	9	5	9	....	42.00
Des Moines.....	Jan. 1, 1897	32	17	24	14	11	130.50
Cedar Falls.....	Jan. 1, 1897	3	10	3	10	....	39 00
Des Moines.....	Renewals	9	3	9	3	....	36 00
Cedar Falls.....	July 1, 1897	28	70	28	70	....	294.00
Cedar Falls.....	Renewals	14	16	14	16	....	90.00
Mt. Vernon.....	July 1, 1897	3	5	3	5	....	24 00
Iowa City.....	July 1, 1897	7	8	7	8	....	45.00
Des Moines.....	July 1, 1897	21	10	15	8	8	81.00
Des Moines.....	Renewals	8	13	8	13	....	63.00
Des Moines.....	July 31, 1897	8	9	3	5	9	37 50
Dubuque	Sept. 1, 1897	9	4	8	3	2	36 00
Totals .....	.....	251	324	215	294	66	\$ 1,626 00

STATE DIPLOMAS.

PLACE OF HOLDING EXAMINATIONS.	DATE OF DIPLOMAS.	NUMBER AP- PLICANTS.		DIPLOMAS GRANTED.		Number failed.	Fees received.
		Males.	Females.	Males.	Females.		
Des Moines.....	Jan. 1, 1896	11	5	11	5	....	\$ 80.00
Cedar Falls.....	July 1, 1896	3	1	3	1	....	20.00
Des Moines.....	July 1, 1896	4	3	4	3	....	35.00
Iowa City.....	July 1, 1896	1	.....	1	.....	....	5.00
Des Moines.....	Jan. 1, 1897	5	.....	5	.....	....	25.00
Cedar Falls.....	July 1, 1897	2	1	2	1	....	15.00
Iowa City.....	July 31, 1897	1	.....	1	.....	....	5.00
Des Moines.....	July 1, 1897	3	1	3	1	....	20.00
Totals .....	.....	30	11	30	11	....	\$ 205.00

**CERTIFICATES AND DIPLOMAS ISSUED UNDER THE PRESENT
LAW, BY BIENNIAL PERIODS.**

KIND OF TESTIMONIAL.	1882-83.	1884-85.	1886-87.	1888-89.	1890-91.	1892-93.	1894-95.	1896-97.	Total.
State certificates.....	7	9	53	141	238	252	440	509	1,649
State diplomas.....	-----	-----	38	44	52	38	54	41	267
Totals	7	9	91	185	290	290	494	550	1,916

RECEIVED IN EXAMINATION FEES.

1884-85.....	\$ 42.00	1894-95.....	\$ 1,282.00
1886-87.....	33.00	1896-97.....	1,800.50
1888-89.....	766.00	1897*.....	718.50
1890-91.....	856.50		
1892-93.....	1,140.00	Total.....	\$ 6,638.50

PAID FOR EXPENSES.

1882-83.....	\$ 237.05	1894-95.....	\$ 964.95
1884-85.....	72.55	1896-97.....	1,052.28
1886-87.....	318.12	1897*.....	154.25
1888-89.....	539.50		
1890-91.....	786.92	Total.....	\$ 4,675.43
1892-93.....	549.81		

*From July 1 to September 30.

SUMMARY.

Number of certificates issued to September 30, 1895.....	1,140
Number of certificates issued period ending September 30, 1897.....	509
Total number issued.....	1,649
Expired by limitation.....	603
Number in force September 30, 1897.....	1,046
Number of diplomas in force September 30, 1895.....	226
Number of diplomas issued period ending September 30, 1897.....	41
Total number of diplomas in force September 30, 1897.....	267

STATEMENT.

*Of the expenses of the State Board of Examiners from October 1, 1895, to
October 1, 1897.*

WARRANTS ISSUED AND TO WHOM.

FROM OCTOBER 1 TO DECEMBER 31, 1895.

W. F. Giesseman.....	\$ 7.30
Mrs. A. H. Mendenhall.....	41.96
E. E. Blanchard.....	81.11
Total	\$130.37

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.		TO WHOM ISSUED.	COUNTY.
Jan.	1, 1896	Charles E. Hanchett.....	Plymouth.
Jan.	1, 1896	Alexander Hinckley.....	Palo Alto.
Jan.	1, 1896	Marguerite Josephine Littig....	Scott.
Jan.	1, 1896	Lloyd F. Loos.....	Cedar.
Jan.	1, 1896	Evelyn Miller.....	Page.
Jan.	1, 1896	Clara Pugh	Iowa.
Jan.	1, 1896	J. M. Rapp.....	Woodbury.
Jan.	1, 1896	Mary Taylor.....	Union.
Jan.	1, 1896	Anna J. Ziek.....	Linn.
Jan.	1, 1896	Anna C. Althouse.....	Hardin.
Jan.	1, 1896	Mrs. Lida Styles Battin....	Johnson.
Jan.	1, 1896	Walter A. Ferguson.....	Osceola.
Jan.	1, 1896	Clarence Messer.....	Humboldt.
Jan.	1, 1896	Elizabeth Perkins.....	Woodbury.
Jan.	1, 1896	Luella V. Simmons.....	Mahaska.
Jan.	1, 1896	Lula May Wallace.....	Cherokee.
June	3, 1896	Charles W. Cruikshank.....	Lee.
June	5, 1896	Isabella Eugenia Powers.....	Chickasaw.
June	5, 1896	Fred Cole Hicks.....	Linn.
June	5, 1896	Bertha Evangeline Bush.....	Hancock.
June	5, 1896	John Mark Crinklaw.....	Marshall.
June	5, 1896	Christian Carl Carstens.....	Union.
June	24, 1896	Alfred Lozier Brown.....	Webster.
June	24, 1896	Margaret Emma Lackey.....	Washington.
June	24, 1896	A. J. Oblinger.....	Dallas.
July	1, 1896	Margaret Alston.....	Linn.
July	1, 1896	Charles Oscar Jameyson..	Clinton.
July	1, 1896	Villa R. Wedlock.....	Cherokee.
July	1, 1896	W. H. Whitford.....	Black Hawk.
July	1, 1896	Minnie D. Ashbrook.....	Marshall.
July	1, 1896	Christian N. Brones.....	Crawford.
July	1, 1896	Albert F. Burton.....	Montgomery.
July	1, 1896	Florence McHenry Butler.....	Keokuk.
July	1, 1896	Mary A. Crew.....	Keokuk.
July	1, 1896	Mary Alpharetta England.....	Mahaska.
July	1, 1896	Hanna Marguerite Hess....	Buena Vista.
July	1, 1896	George A. Hooker.....	Ida.
July	1, 1896	Anna Livingood.....	Clayton.
July	1, 1896	Thomas S. Lytle	Washington.
July	1, 1896	James I. Martin.....	Mitchell.
July	1, 1896	Mary R. Roland.....	Shelby.
July	1, 1896	Simon B. Stonerook, Jr.....	Henry.
July	1, 1896	Alsina M. Andrews.....	Mahaska.
July	1, 1896	Melissa B. Lenocker.....	Dallas.
July	1, 1896	Agnes Moscrip Cowan.....	O'Brien.
July	1, 1896	Lizzie A. Weinschenk.....	Jackson.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
July 1, 1896	Mary Louise Muhs.....	Clinton.
July 1, 1896	Caroline N. Otis.....	Boone.
July 1, 1896	Leora C. Parker.....	Buchanan.
July 1, 1896	Daniel R. Perkins.....	Pottawat'mie.
July 1, 1896	Thaddeus Minton Prall.....	Montgomery.
July 1, 1896	Samuel Quigley.....	Mahaska.
July 1, 1896	Edward E. Rall.....	Sioux.
July 1, 1896	Artie Ruth Roberts.....	Union.
July 1, 1896	James C. Sanders.....	Black Hawk.
July 1, 1896	Harry H. Savage.....	Dickinson.
July 1, 1896	Erwin Schenk.....	Black Hawk.
July 1, 1896	Katherine Schwertley.....	Harrison.
July 1, 1896	Jennie W. Sheean.....	Jones.
July 1, 1896	Alice M. Shoemaker.....	Cass.
July 1, 1896	Mary H. Smith.....	Jones.
July 1, 1896	Stella M. Speke.....	Benton.
July 1, 1896	Harriet Steele.....	Polk.
July 1, 1896	Harry Sherman Stein.....	Lee.
July 1, 1896	James William Stockman.....	Keokuk.
July 1, 1896	Melvin R. Timmerman.....	Franklin.
July 1, 1896	Helen Ada Tyler.....	Pottawat'mie.
July 1, 1896	Bert B. Welty.....	Story.
July 1, 1896	Alice J. White.....	Clay.
July 1, 1896	Lydia Whited.....	Wright.
July 1, 1896	Ida Belle Worster.....	Dallas.
July 1, 1896	Anna M. Young.....	Jackson.
July 1, 1896	Emma C. Youngquist.....	Buena Vista.
July 1, 1896	Walter G. Burris.....	Montgomery.
July 1, 1896	Susie A. Hemenway.....	Mitchell.
July 1, 1896	Alma E. Gray.....	Allamakee.
July 1, 1896	B. J. Barr.....	Marion.
July 1, 1896	Thomas Washington Bittle.....	Linn.
July 1, 1896	Elmer B. Brown.....	Linn.
July 1, 1896	Amy L. Dougherty.....	Bremer.
July 1, 1896	Martin J. Irons.....	Linn.
July 1, 1896	Amanda Emeline Little.....	Harrison.
July 1, 1896	Pearl Evyleen Reeder.....	Buena Vista.
July 1, 1896	Harris W. Smith.....	Floyd.
July 1, 1896	Addie Grace Wardle.....	Linn.
July 1, 1896	Sadie E. Bershee.....	Des Moines.
July 1, 1896	Grace Elizabeth Childs.....	Des Moines.
July 1, 1896	Alice Ray Donahue.....	Des Moines.
July 1, 1896	Aimee F. Greenbaum.....	Des Moines.
July 1, 1896	Louise C. Gutekunst.....	Des Moines.
July 1, 1896	Mary E. Haubold.....	Des Moines.
July 1, 1896	Ida Marie Hoeberg.....	Des Moines.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
July 1, 1896	Ellen M. Austin.....	Cass.
July 1, 1896	Irwin N. Beard	Clarke.
July 1, 1896	Frances Maria Wallace	Cherokee.
Aug. 1, 1896	J. W. Countermine	Cherokee.
Aug. 1, 1896	William A. Deming.....	Woodbury.
Aug. 1, 1896	Edward Hultsch.....	Woodbury.
Aug. 1, 1896	Charles M. King	Plymouth.
Aug. 1, 1896	Maggie Rogers.....	Woodbury.
Aug. 1, 1896	Ella B. Toenjes	Woodbury.
Aug. 1, 1896	Ella C. Truman	Woodbury.
Aug. 1, 1896	James E. Forsyth	Benton.
Aug. 1, 1896	Mrs. Mandelia Harsin.....	Marion.
Aug. 1, 1896	Margaret King.....	Crawford.
Aug. 1, 1896	Etta J. Rider.....	Ringgold.
Aug. 1, 1896	Ethel B. Rundall	Wright.
Aug. 1, 1896	Emma Taylor	Boone.
Aug. 1, 1896	Agnes E. Wallace	Buchanan.
Aug. 1, 1896	Franklin E. Willard	Marshall.
Aug. 1, 1896	Alice Clark	Hardin.
Aug. 1, 1896	James Louis Rose.....	Cherokee.
Aug. 7, 1896	Seeley W. Rowley.....	Cass.
Aug. 7, 1896	Ella Gertrude Barnard	Cass.
Aug. 7, 1896	Hannah A. Boyle.....	Cass.
Aug. 7, 1896	Mrs. R. S. Farris	Cass.
Jan. 1, 1897	Charles W. Bacon	Marshall.
Jan. 1, 1897	William Henry Blakely	Humboldt.
Jan. 1, 1897	Ella B. Curtis	Buchanan.
Jan. 1, 1897	Sada C. Dougherty	Linn.
Jan. 1, 1897	Alice C. Dunham	Poweshiek.
Jan. 1, 1897	J. S. Estes	Fremont.
Jan. 1, 1897	William C. Farmer	Keokuk.
Jan. 1, 1897	William J. Flint.....	Tama.
Jan. 1, 1897	Ella Weed French.....	Humboldt.
Jan. 1, 1897	Earl Leroy Grout	Lyon.
Jan. 1, 1897	Carrie Taylor Hinckley.....	Palo Alto.
Jan. 1, 1897	F. P. Hocker.....	Audubon.
Jan. 1, 1897	Cora A. Holbrook	Webster.
Jan. 1, 1897	Thos. B. Hutton.....	Sioux.
Jan. 1, 1897	John W. Jackson	Sac.
Jan. 1, 1897	William P. Johnson.....	Iowa.
Jan. 1, 1897	Maurice P. Kenworthy.....	Guthrie.
Jan. 1, 1897	James M. Martindale	Jasper.
Jan. 1, 1897	Edward A. Parks.....	Winneshek.
Jan. 1, 1897	Cyrus B. Pickrell.....	Madison.
Jan. 1, 1897	Fannie M. Power.....	Jasper.
Jan. 1, 1897	Jennie Robertson.....	Carroll.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
June 22, 1897	Morris Wright Cooper.....	Buena Vista.
June 22, 1897	William T. Dick.....	Van Buren.
June 22, 1897	Finette Ferris.....	Franklin.
June 22, 1897	Walter Guthridge.....	Adams.
June 22, 1897	J. Edward Johnson.....	Benton.
June 22, 1897	Elizabeth Klein.....	Linn.
June 22, 1897	Charles F. Kuehne.....	Tama.
June 22, 1897	Joseph C. McGee.....	Butler.
June 22, 1897	Isabel M. McIntosh.....	Van Buren.
June 22, 1897	Frank G. Miller.....	Harrison.
June 22, 1897	Clara Belle Nettle.....	Marshall.
June 22, 1897	Bertha Pratt.....	Benton.
June 22, 1897	Charles F. Severance.....	Black Hawk.
June 22, 1897	Anna Louise Sitler.....	Jasper.
June 22, 1897	Florence Louise Strasser.....	Jackson.
June 22, 1897	Charles Madison Thompson....	Adams.
June 22, 1897	Stella Tuttle.....	Hamilton.
June 22, 1897	Mary Virginia Wynkoop.....	Jackson.
June 22, 1897	Mary A. Down.....	Sac.
June 22, 1897	G. H. Olmsted.....	Black Hawk.
June 22, 1897	Mary Letta Dixon.....	Black Hawk.
June 22, 1897	William C. Kennedy.....	Appanoose.
June 22, 1897	J. W. W. Laird.....	Pottawat'mie.
June 22, 1897	Eliza F. Mitchell.....	Page.
June 22, 1897	Juliette Pierce.....	Delaware.
June 22, 1897	Mary E. Rice.....	Harrison.
June 22, 1897	Esther Spencer.....	Marshall.
June 22, 1897	Herbert Ransom Wright.....	Delaware.
June 22, 1897	Emma Bradley.....	Shelby.
July 1, 1897	Margaret Anderson.....	Cherokee.
July 1, 1897	Mae Arnold.....	Clarke.
July 1, 1897	Charles L. Babcock.....	Black Hawk.
July 1, 1897	E. Frances Barnett.....	Pottawat'mie.
July 1, 1897	Jessie May Barnt.....	Sac.
July 1, 1897	Celia M. Bell.....	Wapello.
July 1, 1897	Anna Bernard.....	Poweshiek.
July 1, 1897	Charles Emory Blodgett.....	Carroll.
July 1, 1897	Anna R. Border.....	Iowa.
July 1, 1897	Mary A. Boyle.....	Black Hawk.
July 1, 1897	Luther Clinton Bryan.....	Hamilton.
July 1, 1897	Eva M. Byerly.....	Jones.
July 1, 1897	Ruby Elizabeth Calderwood....	Tama.
July 1, 1897	Charles W. Cavett.....	Mitchell.
July 1, 1897	Adelaide Grace Chambers.....	Black Hawk.
July 1, 1897	Carrie Ella Clark.....	Floyd.
July 1, 1897	William Woodard Coates.....	Black Hawk.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY
July 1, 1897	M. Louisa Crary.....	Grundy.
July 1, 1897	Alice Bertha Curtis.....	Butler.
July 1, 1897	Grace Emily Curtis.....	Butler.
July 1, 1897	Flora Ethel Davis.....	Clayton.
July 1, 1897	Calvin Stewart Dodds.....	Louisa.
July 1, 1897	Lydia B. Eckhard.....	Black Haw
July 1, 1897	Bertha Josephine Edwards.....	Black Haw
July 1, 1897	Minnie Aristine Edwards.....	Black Haw
July 1, 1897	Edith M. Eighmey.....	Black Haw
July 1, 1897	Frank Emery Fowlie.....	Cedar.
July 1, 1897	Alice Fullerton.....	Floyd.
July 1, 1897	Hattie Ann Garrison.....	Jones.
July 1, 1897	Ida Gillaspie.....	Monroe.
July 1, 1897	Annie C. Goodale.....	Butler.
July 1, 1897	Mary A. Gordon.....	Poweshiek
July 1, 1897	Joseph W. Graham.....	Cedar.
July 1, 1897	Harriet D. Haworth.....	Marshall.
July 1, 1897	Harry W. Heath.....	Benton.
July 1, 1897	Elizabeth W. Heaton.....	Jefferson.
July 1, 1897	Louise Heidenreich.....	Keokuk.
July 1, 1897	Cora Myrtle Henness.....	Mahaska.
July 1, 1897	Clara H. Hieber.....	Black Haw
July 1, 1897	Mary K. Hobbs.....	Calhoun.
July 1, 1897	Jessie Alberta Hoffman.....	Black Haw
July 1, 1897	Mary Hollen.....	Adair.
July 1, 1897	Hannah Lois Houghton.....	Benton.
July 1, 1897	Emma Florence Huffman.....	Dallas.
July 1, 1897	Mary M. Hughes.....	Washington
July 1, 1897	Carrie E. Johnson.....	Pottawat'm
July 1, 1897	Josephine E. Johnson.....	Wright.
July 1, 1897	May L. Kennedy.....	Butler.
July 1, 1897	J. M. Kirby.....	Butler.
July 1, 1897	Margaret L. Klinefelter.....	Worth.
July 1, 1897	Charles W. Larkin.....	Henry.
July 1, 1897	N. M. Leonard.....	Dallas.
July 1, 1897	Jessie F. Lias.....	Jackson.
July 1, 1897	Elizabeth E. McDowell.....	Black Haw
July 1, 1897	Cilena G. Mercer.....	Pocahonta
July 1, 1897	Robert H. Minkel.....	Black Haw
July 1, 1897	Berta Mitchell.....	O'Brien.
July 1, 1897	Chase E. Mulinex.....	Lyon.
July 1, 1897	E. C. Nelson.....	Hardin.
July 1, 1897	Evelyn Irene Newton.....	Benton.
July 1, 1897	Nora M. Niday.....	Wayne.
July 1, 1897	Ellen O'Brian.....	Wapello.
July 1, 1897	Nina A. Oldham.....	O'Brien.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.		TO WHOM ISSUED.	COUNTY.
July	1, 1897	Ethel L. Osler.....	Pottawat'mie.
July	1, 1897	Alice Peters.....	Wapello.
July	1, 1897	Harriet Mae Pollock.....	Webster.
July	1, 1897	Frank Popham.....	Iowa.
July	1, 1897	Otis Randall.....	Dallas.
July	1, 1897	Minnie D. Reed ..	Woodbury.
July	1, 1897	William Henry Reeve.....	Carroll.
July	1, 1897	Earl B. Rogers.....	Mitchell.
July	1, 1897	Lou L. Romey.....	Osceola.
July	1, 1897	Nellie M. Scott.....	Keokuk.
July	1, 1897	Carl J. Shaffer.....	Appanoose.
July	1, 1897	Fannie Shaffer.....	Appanoose.
July	1, 1897	Pearl M. Shaffer.....	Hardin.
July	1, 1897	Gertrude Mae Shank.....	Linn.
July	1, 1897	Adah Estella Snedcor.....	Cherokee.
July	1, 1897	William Sparks.....	Wayne.
July	1, 1897	Rosa Edith Sparr.....	Black Hawk.
July	1, 1897	Mary F. Stout.....	Grundy.
July	1, 1897	Marie E Wachholz.....	Chickasaw.
July	1, 1897	Ida A. Wagner.....	Tama.
July	1, 1897	Morton E. Weldy.....	Mahaska.
July	1, 1897	Nellie E. Weldy.....	Mahaska.
July	1, 1897	Jessie Marie Wilbern.....	Osceola.
July	1, 1897	Frankie E. Wilcox.....	Winneshiek.
July	1, 1897	Fred Williams.....	Mahaska.
July	1, 1897	Lena M. Wing.....	Lyon.
July	1, 1897	Margaret Young.....	Grundy.
July	1, 1897	Florence Belle Clark.....	Delaware.
July	1, 1897	R. A. Elwood.....	Appanoose.
July	1, 1897	Maud R. Rhoad.....	Greene.
July	1, 1897	Harvey A. Welty.....	Dickinson.
July	1, 1897	Ella D. Williams.....	Black Hawk.
July	1, 1897	Anna C. Brown.....	Monona.
July	1, 1897	George Eugene Brown.....	Cerro Gordo.
July	1, 1897	Jessie M. Butler.....	Iowa.
July	1, 1897	Benjamin P. Harding.....	Floyd.
July	1, 1897	A. Laura Humphries.....	Buena Vista.
July	1, 1897	John Andrew McIntosh.....	Decatur.
July	1, 1897	Joseph Parks.....	Wapello.
July	1, 1897	Lida J. Colton.....	Linn.
July	1, 1897	Winifred Evans.....	Linn.
July	1, 1887	Anna Gouldin.....	Linn.
July	1, 1897	Homer Harvey Hankins.....	Keokuk.
July	1, 1897	J. R. Jamison.....	Linn.
July	1, 1897	Jennie E. Post.....	Linn.
July	1, 1897	Archie Edward Rigby.....	Delaware.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
July 1, 1897	Myrtle Ward	Sioux.
July 1, 1897	Abby Boals.....	Cerro Gordo.
July 1, 1897	Anna Lalor Burdick.....	Hardin.
July 1, 1897	Margaret W. Cooper.....	Johnson.
July 1, 1897	R. B. Crone.....	Tama.
July 1, 1897	Maud Gray.....	Cedar.
July 1, 1897	Etta Maria Hunter	Johnson.
July 1, 1897	Elizabeth D. Jones	Johnson.
July 1, 1897	Charles J. Lynch.....	Benton.
July 1, 1897	John Meissner	Mahaska.
July 1, 1897	Clementine C. Otto.....	Johnson.
July 1, 1897	Theresa Elizabeth Peet.....	Jones.
July 1, 1897	R. G. Popham.....	Johnson.
July 1, 1897	Judson W. Reynolds.....	Mahaska.
July 1, 1897	Rozelle Fayette Skiff.....	Linn.
July 1, 1897	Samuel K. Stevenson.....	Johnson.
July 1, 1897	J. D. Adams	Grundy.
July 1, 1897	S. Charles Dickinson	Marshall.
July 1, 1897	Henry A. Gossard.....	Story.
July 1, 1897	Joshua Jester, Jr.....	Warren.
July 1, 1897	Minnie B. King.....	Jasper.
July 1, 1897	Martha Meacham.....	Washington.
July 1, 1897	Homer R. Miller	Jasper.
July 1, 1897	Mary A. Morrissey.....	Shelby.
July 1, 1897	Samuel W. Myers.....	Polk.
July 1, 1897	Emily A. Reeve	Franklin.
July 1, 1897	Edward W. Richards.....	Wright.
July 1, 1897	Nellie Richards.....	Clarke.
July 1, 1897	Anna E. Sackett	Madison.
July 1, 1897	Elma Mary Southworth.....	Boone.
July 1, 1897	Clemmons G. Sutton	Wayne.
July 1, 1897	Albert van der Ploeg	Marion.
July 1, 1897	Frank Van Erdewyk.....	Kossuth.
July 1, 1897	Barclay Cary Winslow.....	Marshall.
July 1, 1897	John E. Witmer.....	Jasper.
July 1, 1897	Cornelia Klass	Washington.
July 1, 1897	Herbert Clark Waddle.....	Benton.
July 1, 1897	Fred Ervin King.....	Appanoose.
July 1, 1897	Lincoln Horace Ozias.....	Woodbury.
July 1, 1897	Kate E. Sullivan.....	Bremer.
July 30, 1897	Amelia G. Reed.....	Jackson.
July 30, 1897	George H. Betts.....	Butler.
July 30, 1897	J. Anna Brabham.....	Shelby.
July 30, 1897	Alice Bradrick.....	Appanoose.
July 30, 1897	Jennie E. Pollock.....	Webster.
July 30, 1897	Luella Rogers.....	Harrison.

STATE CERTIFICATES—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
July 30, 1897	Clarence McCracken.....	Cedar.
July 30, 1897	J. F. Holiday.....	Wayne.
July 30, 1897	Viola Helen Schell.....	Poweshiek.
July 30, 1897	Nettie A. Kepler.....	Black Hawk.
July 30, 1897	B. J. Horchem.....	Dubuque.
July 31, 1897	James Brakefield Young.....	Tama.
July 31, 1897	Fannie O. Ames.....	Mills.
July 31, 1897	Amanda Florence Ballard.....	Harrison.
July 31, 1897	Carrie E. Carrick.....	Madison.
July 31, 1897	Ernestine Houston.....	Mills.
July 31, 1897	Jeremiah Morrissey.....	Marshall.
July 31, 1897	Dora Hansen Shinn.....	Benton.
July 31, 1897	Henry Eugene Slattery.....	Story.
July 31, 1897	Orion O. Vogenitz.....	Worth.
Sept. 1, 1897	Leroy C. Bowers.....	Kossuth.
Sept. 1, 1897	Albert Stewart Fulton.....	Humboldt.
Sept. 1, 1897	Orris W. Herr.....	Sioux.
Sept. 1, 1897	Henrietta Kelly.....	Palo Alto.
Sept. 1, 1897	Leonard L. Lightcap.....	Dubuque.
Sept. 1, 1897	Julia M. Lynch.....	Dubuque.
Sept. 1, 1897	Paul M. Ray.....	Mitchell.
Sept. 1, 1897	Mary C. Rolfs.....	Scott.
Sept. 1, 1897	Guy Savage.....	Marshall.
Sept. 1, 1897	Bernard W. Schulte.....	Dubuque.
Sept. 20, 1897	Freeman Henry Bloodgood.....	Fayette.

STATE DIPLOMAS.

DATE OF DIPLOMA.	TO WHOM ISSUED.	COUNTY.
Jan. 1, 1896	Ozro Patterson Bostwick.....	Clinton.
Jan. 1, 1896	*William H. Bowser.....	Calhoun.
Jan. 1, 1896	*Helen Elliott.....	Mitchell.
Jan. 1, 1896	*Dennis M. Kelly.....	Jasper.
Jan. 1, 1896	*Angus Macdonald.....	Wright.
Jan. 1, 1896	Margaret McCowan.....	Polk.
Jan. 1, 1896	*James H. Morgan.....	Cedar.
Jan. 1, 1896	*Samuel Bruce Montgomery...	Benton.
Jan. 1, 1896	Louisa Christiana Paterson....	Polk.
Jan. 1, 1896	Dennis Arthur Thornburg.....	Chickasaw.
Jan. 1, 1896	*Samuel Gordon Burkhead.....	Buchanan.
Jan. 1, 1896	Nancy Jennette Carpenter.....	Plymouth.
Jan. 1, 1896	*Warren J. Dean.....	Madison.
Jan. 1, 1896	Sarah M. Loring.....	Polk.

*Held state certificate in Iowa.

STATE DIPLOMAS—CONTINUED.

DATE OF CERTIFICATE.	TO WHOM ISSUED.	COUNTY.
Jan. 1, 1896	Henry Hurd Roberts.....	Scott.
Jan. 1, 1896	James Ephraim Williamson....	Jefferson.
July 1, 1896	*Horatio Bryant Lizer.....	Black Hawk.
July 1, 1896	*Minnie May Moore	Floyd.
July 1, 1896	*T. Burton Morris.....	Linn.
July 1, 1896	*Paul Peterson.....	Shelby.
July 1, 1896	William Alfred Crusiaberry....	Polk.
July 1, 1896	Eliza George.....	Polk.
July 1, 1896	*Nathaniel Spencer.....	Crawford.
July 1, 1896	*Anna O. Temple.....	Iowa.
July 1, 1896	Hal H. Monlux.....	Jasper.
July 1, 1896	*John Allen Beard	Madison.
July 1, 1896	*Esther D. Hunt.....	Mahaska.
July 1, 1896	*Herbert G. Lamson.....	Cass.
Jan. 1, 1897	Charles C. Dudley.....	Jackson.
Jan. 1, 1897	*John N. Hamilton	Sac.
Jan. 1, 1897	*Frank Homer Slagle.....	Clayton.
Jan. 1, 1897	Walter Crosby Van Ness.....	Crawford.
Jan. 1, 1897	*Peter Burnett Woods.....	Marion.
July 1, 1897	*Louisa A. Franklin.....	Muscatine.
July 1, 1897	*Charles Alexander Fullerton..	Floyd.
July 1, 1897	*J. Percival Huggett	Butler.
July 1, 1897	*A. L. Lyon.....	Dallas.
July 1, 1897	*Olive McHenry.....	Polk.
July 1, 1897	*Cyrus Herbert Morrill.....	Lee.
July 1, 1897	*William El Do Rummel	Polk.
July 31, 1897	*Daniel Swindler.....	Washington.

*Held state certificate in Iowa.

TEXT-BOOKS.

The house of representatives at the extra session of the Twenty-sixth General Assembly, passed a resolution requesting the superintendent of public instruction to report upon the subject of the supply of text-books for use in the public schools of the state. As amended the resolution reads as follows:

WHEREAS, The people of the state of Iowa have, for many years, been compelled to pay unreasonably high, and often extortionate, prices for the text-books necessary to educate their children in the public schools of the commonwealth, and,

WHEREAS, The publishers of text-books have continued to charge the high prices notwithstanding the business and industry of the country have never suffered such severe and prolonged depression, the prices of all commodities and products of labor and the prices paid for labor being now greatly reduced below the normal rate; therefore, be it

Resolved, That the superintendent of public instruction be directed to give this matter his most careful attention, and investigate the various methods of obtaining and furnishing our public schools with text-books and supplies, and to report to the Twenty-seventh General Assembly the most practicable system for supplying the people of Iowa with suitable text-books at the lowest possible cost price to the taxpayers. And also to secure from not less than three reputable and responsible publishing houses, which are not in any way engaged in the publication or sale of school books, estimates showing the cost of the material, press work, and binding, per volume, of each of the various kinds of text-books necessarily used in the public schools of the state, such estimates to be based upon books similar in size and quality of workmanship to those now in general use, furnished in lots of not less than 10,000 of each kind at a time, from electro plates provided by the state.

It has been found impracticable to comply with the latter part of this resolution, which directs the superintendent of public instruction to obtain from three responsible houses not engaged in the sale or manufacture of school books estimates showing cost of material, press work, per volume, etc. Had a reasonable appropriation accompanied the resolution it would have given me pleasure to comply with its requirements, as the information thus obtained would be valuable in settling some disputed points. No reputable or responsible firm, however, not engaged in the sale or manufacture of text-books, would undertake such an extensive and careful investigation as would be necessary in order to make the results of any value, without a reasonable compensation. So many items enter into the compilation and manufacture of text-books, each of which has a direct bearing upon the ultimate price at which books can be sold to pupils at cost, that none but a careful expert can make such estimates as would be a safe guide in considering this question.

I have endeavored to comply with the original resolution in its spirit as well as in its letter. If the people of Iowa are paying extortionate prices for school books, or if other states are obtaining those of equal grade in all respects for less than we are, it is a wrong which ought to be remedied at once.

In order that this matter may be placed before you fairly, and without prejudice, I have made a brief summary of the laws in each of several states, and have appended to each the

prices at which books are sold to the pupils in the public schools. I have also copied from the reports made to this office by the county superintendents the prices at which books are sold under the Iowa law for county uniformity. For this purpose I have selected five fairly representative counties. There are also added, for public information, the prices at which books are sold in certain towns and cities. In making selections of towns and cities, as well as of counties, reference has been had solely to difference of location, population, and character of the schools. In every case the prices published are those furnished this department by school authorities.

MISSOURI TEXT-BOOK LAW.

SECTION 1. The commission is constituted as follows: The state auditor, the attorney-general, the superintendent of public instruction, the president of the state normal school, and one practical public school teacher to be appointed by the governor. They each receive five dollars per day and actual traveling expenses for the time in session, not to exceed thirty days.

SEC. 3. The commission is directed, immediately after organization, to advertise for the lowest and best bids for standard school text-books to be used for a period of five years; each bid must be accompanied with a sample copy and a deposit of five hundred dollars to cover cost and damages for failure to comply with terms of contract.

SEC 5. If any bid is satisfactory the commission shall select the cheapest and best course of text-books, taking into consideration the quality of material, illustrations, binding, and all things entering into the publication of a desirable school text-book.

SEC. 6. The commission shall require all publishers to specify and guarantee three prices, first, the contract price; second, the retail price, which shall not be more than fifteen per cent above the contract price; and third, the mailing price; and upon what terms, for the purpose of introduction, they will exchange other books offered for use, for those now in actual use. The law also provides upon what terms pupils about to be promoted may exchange their books for those of the next higher grade. The commission shall then, with the aid of the attorney-general, enter into a contract in the name of the state of Missouri for a period of five years with any house whose bid has been accepted, clearly setting out the terms of agreement as noted above. The publishers must enter into a bond of ten thousand dollars for the faithful performance of the contract.

SEC. 8. The commission may employ one clerk at a salary of \$3.50 a day.

SEC 11. After the first day of September, 1897, no other text-books except those contracted for by said commission shall be sold for use in any of the public schools, and after the first day of September, 1898, no other text-books shall be used.

SEC. 12. Any school director or board of school directors violating this act shall be deemed guilty of a misdemeanor and become liable to a fine of not less than five nor more than twenty-five dollars for each offense. Nothing in this act, however, prevents the employment of other books, works of literature, and so on, for supplementary reading.

SEC. 15. For the purpose of carrying out the provisions of this act the sum of two thousand dollars is appropriated out of the general fund of the state.

MISSOURI.

TEXT-BOOKS.	RETAIL PRICE.
White's Oral Arithmetic.....	\$.30
Milne's Elementary Arithmetic.....	.25
Milne's Standard Arithmetic.....	.56
Rand-McNally Elementary Geography.....	.42
Rand-McNally Complete Geography.....	.81
Patrick's Lessons in Grammar.....	.25
Morris' Elementary History.....	.51
Shinn's American People.....	.86
De Garmo First Book in Language.....	.26
De Garmo Second Book in Language.....	.35
Vertical Writing (natural system).....	.05
Baldwin's Essential Lessons in Physiology.....	.45
New Franklin Primer and First Reader Combined.....	.12
New Franklin Second Reader.....	.17
New Franklin Third Reader.....	.23
New Franklin Fourth Reader.....	.35
New Franklin Fifth Reader.....	.45
Taylor's Primer.....	.26
Sever's Progressive Speller.....	.16

THE CALIFORNIA TEXT-BOOK LAW.

California furnishes us the only example we have of state publication of school books. Under the law as adopted in 1885, the sum of \$20,000 was appropriated for the purpose of compiling a series of text-books for the common schools. An additional sum of \$150,000 was set aside for the purpose of establishing a plant, purchasing of material, and payment of salaries. In 1887 the further sum of \$165,000 was appropriated for the same purpose. Other and additional appropriations have been found necessary from time to time in order to carry on the work and provide suitable books. The state of course owns the copyrights and the plants for binding and printing. California, according to figures compiled by the secretary of state, has appropriated \$405,000 in all for printing text-books. There seem to be other items not included in the sum amounting to \$73,669. Very much of this large sum has been refunded to the treasury from the sale of books. The theory of the state board fixes eight years as the time in which the estimated sales of books would pay for themselves and also for the plant. As against this theory are the facts that the books, as all school books must, need frequent revision, that the plant will

wear out, and that the number sold does not reach the estimate. The following is the official list of books made by the state and the prices at which they are furnished pupils. It is very easy to determine whether there is any economy in state publication.

CALIFORNIA.

TEXT-BOOKS.	RETAIL PRICE.
Revised First Reader.....	\$.20
Revised Second Reader.....	.35
Revised Third Reader.....	.50
Revised Fourth Reader.....	.60
Speller.....	.30
Primary Number Lessons.....	.25
Advanced Arithmetic.....	.50
Lessons in Language.....	.30
Revised English Grammar.....	.55
U. S. History.....	.80
Elementary Geography.....	.60
Advanced Geography.....	1.20
Physiology.....	.60
Civil Government.....	.55
English Grammar (old edition).....	.50

INDIANA TEXT-BOOK LAW.

SECTION 1. The state board of education constitutes the board of commissioners for making a selection or procuring the compilation of books for use in the common schools. Said board shall advertise for twenty-one consecutive days in two daily papers in Indiana, and one in New York, Philadelphia, Cincinnati, Chicago, and St. Louis First, for sealed proposals from publishers of school text-books, stating the price at which each book will be furnished. Second, from authors who have manuscripts of books not published, for price at which they will sell the same with a copyright of such book. Third, from persons who are willing to undertake the compilation of books as provided for in this act. Provided that all bids must be accompanied by a bond in the sum of fifty thousand dollars and provided further that bids shall be accompanied by an affidavit of the bidder that he is not connected with any scheme whereby the benefits of competition are denied to the people of the state.

SEC. 4. The board at the time of meeting shall open all bids and shall make a thorough investigation and ascertain under which of said proposals school books can be furnished the people of the state at the lowest price, considering the size, quality and matter. The price at which each book shall be furnished corresponds with the price as published in this report.

SEC. 5. Relates to the procuring of manuscripts.

SEC. 6. The state is not held liable to any contractors but all such contractors shall be paid from the proceeds of the sale of books.

The remaining sections of the law, which is quite lengthy, refer to the manner of distributing the books, the compensation to be paid for handling the books, reports to be made, and

given. One thousand dollars is appropriated out of a fund in the state treasury to pay the expenses of publication. The name and price of the book shall appear on the cover.

A sentence from a letter from a private correspondent, who is in a position to render his judgment

on the other side to this question which you should not overlook. The salary of officers of the state, except the superintendent of public instruction, is paid salaries from local funds for looking after the books. It is a good deal to the expense of the books during the five

INDIANA.

TEXT-BOOKS.	RETAIL PRICE.
Reader.....	\$.10
Reader.....	.15
Reader.....	.25
Reader.....	.30
Reader.....	.40
Primary Arithmetic.....	.35
Intermediate Arithmetic.....	.45
Primary Geography.....	.30
Intermediate Geography.....	.75
Book.....	.10
Physiology.....	.30
Advanced Physiology.....	.60
Plate Grammar.....	.20
Book Grammar.....	.40
Books, each.....	.05
1 Lessons in the use of English.....	.25
1 English Grammar.....	.40
History's American History.....	.65

OHIO TEXT-BOOK LAW.

Any publisher desiring to offer school books for use in Ohio shall deposit with the office of the state commissioner of common schools a copy of the published list of the wholesale price thereof. A committee consisting of the governor, the secretary of state, and the state superintendent of common schools, shall fix the maximum price at which the books may be sold to or purchased by boards of education, which price shall not exceed 75 per cent of the published list wholesale price.

If the publisher shall notify the commissioner that he has accepted the price so fixed such written acceptance shall entitle him to offer the books to said boards of education for use under the terms of this act. It is not lawful for any board of education to adopt or cause to be adopted in common schools any book whose publishers have not complied with the provisions of this act.

SEC. 4. If any publisher fails or refuses to furnish such books, having agreed to do the same, he shall be liable to a fine of \$500.

Each board of education shall determine, by a majority vote of all members elect, which of said books so filed shall be used in the schools under its control. But no text-book once adopted shall be changed within a term of five years from its adoption. Each board has power to make necessary provisions and arrangements to place the books within easy reach of the pupils; 10 per cent may be added to the cost price to pay for handling the books. Under this law the board pays for all the books and the proceeds of the sale of the books are repaid into the contingent fund. This law also provides for free text-books if the electors so direct.

Thirty-eight leading companies have complied with the provisions of the law and are selling their books to the schools in Ohio. As far as I can ascertain they are selling their books at the same prices at which they are furnishing them to schools in Iowa under county or district contract.

KANSAS TEXT-BOOK LAW.

SEC. 1. The text-book commission consists of eight members to be appointed by the governor by and with the consent of the senate, not more than three of whom shall be selected from any one political party. They receive as compensation the sum of five dollars a day and actual expenses in going to and returning from any meeting. The state superintendent of public instruction is chairman of the commission with the right to vote upon any and all propositions.

SEC. 9. The text-book commission is empowered and authorized to select and adopt a uniform series of text-books for use in the public schools of the state of Kansas.

SEC. 10. The superintendent of public instruction is authorized to advertise in the official state paper for four consecutive weeks for bids and proposals.

SEC. 11. Any person or company desiring to make bids as provided in this act shall submit them in writing with a certified check for \$1,000 to be forfeited to the state in case such party fails to enter into bond and make the contract if awarded to him.

SEC. 12. All bids and proposals must be on the following matters:

First.—From the publishers of school text-books for furnishing for use in the public schools of Kansas for a term of five years, each bid to state the price at which each book is to be furnished.

Second.—From any authors of school books who have manuscripts not published, for the price at which they will sell their manuscript.

Third.—From persons who are willing to undertake the compilation of books, the prices at which they are willing to undertake such work. All bids by publishers must be accompanied by a bond in the sum of \$50,000 for the faithful performance of the contract. The bidder is required to make

Table of prices at which books are furnished pupils in Appanoose, Winneshiek, Warren, Monona and Polk counties, as returned to this office by the county superintendent:

APPANOOSE COUNTY, IOWA.

TEXT-BOOKS.	CONTRACT PRICE.
McGuffey's Primer.....	\$.10
McGuffey's First Reader.....	.15
McGuffey's Second Reader.....	.25
McGuffey's Third Reader.....	.35
McGuffey's Fourth Reader.....	.40
McGuffey's Fifth Reader.....	.60
Patterson's Speller.....	.15
Ray's New Elementary Arithmetic.....	.30
Ray's New Practical Arithmetic.....	.45
Ray's New Higher Arithmetic.....	.75
Barnes' Elementary Geography.....	.45
Barnes' Complete Geography.....	1.00
Eclectic Physical Geography.....	.85
Reister's Copy Books.....	.07
Conklin's English Grammar.....	.55
Reed's Language.....	.35
House I Live In.....	.25
Eclectic Guide to Health.....	.50
Steele's Hygiene.....	.85
Barnes' Primary History.....	.50
Barnes' Brief History.....	.85

WINNESHIEK COUNTY, IOWA.

Barnes' First Reader.....	.16
Barnes' Second Reader.....	.28
Barnes' Third Reader.....	.40
Normal Fourth Reader.....	.50
Normal Fifth Reader.....	.70
White's First Arithmetic.....	.23
White's Complete Arithmetic.....	.49
Swinton's Introductory Geography.....	.44
Rand-McNally's Grammar School Geography.....	.67
Patterson's Common School Speller.....	.14
Normal Copy Books, per dozen.....	.77
Sheldon's Primary Language.....	.30
Sheldon's Advanced Language.....	.50
Stowell's Healthy Body.....	.42
Hutchison's Physiology.....	.88
Barnes' Primary History.....	.45
Barnes' Brief History.....	.75
White's Outlines of History.....	.24

WARREN COUNTY, IOWA.

TEXT-BOOKS.	CONTRACT PRICE.
McGuffey's Revised First Reader.....	\$.13
McGuffey's Revised Second Reader.....	.23
McGuffey's Revised Third Reader.....	.32
McGuffey's Revised Fourth Reader.....	.38
McGuffey's Revised Fifth Reader.....	.54
McGuffey's Revised Sixth Reader .....	.64
McGuffey's Revised Speller .....	.13
White's First Arithmetic.....	.23
White's Complete Arithmetic.....	.49
Barnes' Brief History.....	.75
Pathfinder No. 2 .....	.38
Steele's Hygienic Physiology.....	.75
Reed & Kellogg's Higher Lessons in English.....	.50
Reed & Kellogg's Introductory Language Work.....	.32
Butler's Elementary Geography.....	.44
Butler's Complete Geography .....	.96
Butler's Physical Geography.....	.87
Burton's Story of Our Country .....	.45
Ellsworth's New Reversible Writing Books (per doz.)....	.75

MONONA COUNTY, IOWA.

Franklin First Reader.....	\$.16
Franklin Second Reader.....	.25
Franklin Third Reader.....	.35
Franklin Fourth Reader.....	.45
Franklin Fifth Reader.....	.60
Modern Speller.....	.16
Stoddard's Intermediate Arithmetic.....	.28
White's First Arithmetic.....	.23
White's Complete Arithmetic .....	.49
Barnes' Elementary Geography .....	.55
Barnes' Complete Geography	1.00
Barnes' Copy Books .....	.08
Maxwell's Intermediate Grammar.....	.35
Whitney-Lockwood Grammar .....	.53
Maxwell's Language .....	.35
Tarbell's Language .....	.45
Steele's Physiology .....	.75
Pathfinder No. 1 .....	.23
Pathfinder No. 2 .....	.38
Barnes' Primary History.....	.45
Barnes' Brief History .....	.75

POLK COUNTY, IOWA.

Barnes' First Reader.....	\$.16
Barnes' Second Reader.....	.28
Barnes' Third Reader.....	.40
Barnes' Fourth Reader.....	.56

POLK COUNTY, IOWA—CONTINUED.

TEXT-BOOKS.	CONTRACT PRICE.
Barnes' Fifth Reader.....	.72
Swinton's Primer .....	.10
Ray's Elementary Arithmetic .....	.26
Ray's Practical Arithmetic.....	.38
Barnes' Elementary Geography .....	.44
Barnes' Complete Geography.....	1.00
McGuffey's Revised Spelling Book.....	.13
Spencerian Copy Books .....	.06
Conklin's Grammar .....	.49
Long's Language.....	.15
Long's Language No. 2.....	.19
Child's Health Primer .....	.23
Young People's Physiology .....	.38
Hygienic Physiology.....	.75
Barnes' Primary History.....	.45
Barnes' Brief History .....	.75

Table of prices at which books are furnished to pupils in the schools of Hamburg, Davenport, Waukon, Burlington, Rock Rapids, Red Oak, Algona, and Boone, as furnished by the city superintendent of schools upon request of this department:

HAMBURG, IOWA.

TEXT-BOOKS.	CONTRACT PRICE.
Franklin First Reader.....	\$.20
Franklin Advanced First Reader .....	.20
Franklin Second Reader.....	.30
Franklin Advanced Second Reader .....	.35
Franklin Third Reader.....	.45
Franklin Advanced Third Reader .....	.45
Franklin Fourth Reader.....	.55
Franklin Fifth Reader.....	.75
Barnes' Fifth Reader.....	.90
Hunt's Modern Spelling Book .....	.20
Model Copy Books.....	.10
Fisk's Arithmetic No. 1 .....	.30
Fisk's Arithmetic No. 2 .....	.60
Hyde's Language No. 1.....	.35
Metcalf & Bright's Language .....	.45
Conklin's Grammar and Composition .....	.65
Butler's Elementary Geography .....	.55
Butler's Complete Geography	1.20
Barnes' Brief History.....	1.00
Smith's Physiology Primer.....	.30
Smith's Elementary Physiology .....	.50
Tracy's Physiology	1.00

DAVENPORT, IOWA.

TEXT-BOOKS.	CONTRACT PRICE.
Pollard's Primer.....	\$.12
Pollard's First Reader .....	.19
Harper's First Reader.....	.19
Harper's Second Reader.....	.29
Pollard's Second Reader .....	.28
Harper's Third Reader.....	.38
Appleton's Introductory Fourth Reader .....	.40
Appleton's Fourth Reader.....	.40
Appleton's Fifth Reader .....	.72
Modern Third Reader .....	.42
Modern Spelling Book.....	.16
Reed & Kellogg's Graded Lessons in English .....	.32
Reed & Kellogg's Higher Lessons in English .....	.53
White's First Arithmetic .....	.25
White's Complete Arithmetic.....	.52
Barnes' Brief History.....	.79
Rand-McNally's Elementary Geography.....	.48
Rand-McNally's Grammar School Geography.....	.75
Smith's Physiology Primer.....	.25
Smith's Elementary Physiology .....	.42
Normal Copy Books, No. 1-4, small size.....	.06
Normal Copy Books, No. 5-10, large size.....	.07

WAUKON, IOWA.

Barnes' First Reader.....	\$.20
Barnes' Second Reader.....	.30
Barnes' Third Reader.....	.40
Barnes' Fourth Reader.....	.60
Barnes' Fifth Reader.....	.75
Swinton's Fifth Reader .....	.75
Cook's Primary Arithmetic.....	.15
White's Elementary Arithmetic .....	.40
White's Complete Arithmetic.....	.50
Frye's Primary Geography.....	.48
Frye's Complete Geography .....	.96
Reed's Word Lessons .....	.20
Reed's Lessons in English.....	.35
Reed's Advanced Grammar .....	.55
Eclectic United States History .....	.80
All writing books .....	.10

BURLINGTON, IOWA.

Pollard's Speller	\$.18
Pollard's Primer.....	.15
Pollard's First Reader .....	.23
Pollard's Second Reader .....	.32
Pollard's Third Reader .....	.40
Harper's Fourth Reader .....	.55
Frye's Primary Geography.....	.60

BURLINGTON, IOWA—CONTINUED.

TEXT-BOOKS.	CONTRACT PRICE.
Frye's Complete Geography.....	1.15
Southworth's Essentials of Arithmetic.....	.40
Walsh's Grammar School Arithmetic .....	.65
Eggleston's First Book of American History.....	.60
Eggleston's United States History.....	.95
Blaisdell's Our Bodies and How We Live.....	.65
Conklin's Grammar.....	.60

ROCK RAPIDS, IOWA.

Pollard's Speller	\$.20
Pollard's First Reader .....	.25
Pollard's Second Reader .....	.35
Metcalf & Bright's Language Lessons .....	.30
Milne's First Lessons in Arithmetic.....	.25
Pathfinder No. 1—Child's Health Primer .....	.30
Pathfinder No. 2—Young People's Physiology.....	.45
Pathfinder No. 3—Steele's Hygienic Physiology.....	.90
Swinton's Word Primer.....	.15
Bright & Metcalf's Language Book .....	.40
Swinton's Word Book .....	.20
Milne's Elements of Arithmetic.....	.30
Reed & Kellogg's Graded Lessons in English.....	.40
Harvey's English Grammar .....	.60
Milne's Standard Arithmetic.....	.65
Frye's Primary Geography.....	.60
Frye's Complete Geography.....	1.20
Barnes' Brief History.....	1.00
Barnes' First Reader.....	.20
Barnes' Second Reader.....	.35
Barnes' Third Reader.....	.50
Barnes' Fourth Reader.....	.70
Barnes' Fifth Reader.....	.90
Watson's Complete Speller.....	.20
Spencerian Copy Books, per dozen .....	.89

RED OAK, IOWA.

Pollard's First Reader	\$.25
Appleton's Second Reader.....	.30
Appleton's Third Reader.....	.40
Appleton's Introductory Fourth Reader .....	.50
Appleton's Fourth Reader.....	.50
Pollard's Speller .....	.20
Swinton's Word Book .....	.20
Montgomery's United States History.....	1.00
Thomas' United States History.....	1.00
Barnes' Brief History	1.00
Fiske's United States History	1.00
Goodrich's Child's History .....	.60

RED OAK, IOWA—CONTINUED.

TEXT-BOOKS.	CONTRACT PRICE.
Milne's Standard Arithmetic.....	\$.65
Milne's Elements of Arithmetic .....	.30
Wentworth's First Steps in Algebra.....	.60
Houston's Physical Geography	1.25
Swinton's Grammar School Geography	1.25
Swinton's Introductory Geography .....	.55
Maxwell's English Grammar.....	.55
Hyde's Lessons in English—Part I .....	.35
Hyde's Lessons in English—Part II .....	.60
Johonnot's Lessons in Hygiene.....	.45
Writing Books—1 to 4.....	.08
Writing Books—5 to 10.....	.10

ALGONA, IOWA.

Harper's First Reader.....	.20
Harper's Second Reader.....	.30
Harper's Third Reader.....	.40
Harper's Fourth Reader.....	.50
Harper's Fifth Reader .....	.70
Harrington's Speller .....	.15
First Lesson in Language .....	.30
Elements of Composition and Grammar.....	.50
Frye's Primary Geography.....	.50
Frye's Complete Geography.....	1.00
Essentials of Arithmetic—Part I .....	.35
Essentials of Arithmetic—Part II .....	.50
Fiske's United States History	1.00
Pathfinder No. 2 .....	.40
Steele's Physiology .....	.80

BOONE, IOWA.

McGuffey's Fourth Reader .....	.65
Barnes' Fifth Reader.....	.80
Hazen's Primer and First Reader.....	.22
Swinton's Word Primer.....	.12
White's Elementary Arithmetic.....	.40
White's Complete Arithmetic.....	.55
Long's Home Geography.....	.22
Eclectic Elementary Geography.....	.50
Eclectic Complete Geography.....	1.00
Smith's Primer Physiology.....	.30
Smith's Elementary Physiology.....	.40
Conklin's Grammar.....	.60
Metcalf's Language Exercises.....	.40
Swinton's Word Analysis.....	.30
Eggleston's First Book American History.....	.50

The following tables are arranged to show the cost of text-books in Iowa as compared with other states. In the tables are included the retail prices of one fourth reader, one arithmetic, an elementary geography, grammar, physiology, writing book, speller, and history, as comprising all the books actually needed by a pupil in this grade. These books are not all purchased, however, at one time and some of them are in use by the pupil until he is well advanced in the fifth reader. The average cost of this set of books, under state adoption, is \$3.16; under county uniformity, \$3.23; as sold in eight towns or cities, \$3.72. If I had taken other states having state adoption the averages would have shown slightly different results. Thus these books in Oregon would cost \$4.78; in Virginia, \$3.78; in Minnesota, \$3.39.

RETAIL PRICE OF TEXT-BOOKS.

TEXT-BOOK.	California.	Ohio.	Missouri.	Kansas.	Indiana.	Average cost of each book.
Fourth Reader.....	\$.60	\$.45	\$.38	\$.33	\$.30	\$.41
Arithmetic .....	.50	.49	.56	.39	.45	.48
Elementary Geography.....	.60	.36	.42	.33	.30	.40
Grammar .....	.55	.45	.40	.38	.40	.44
Physiology .....	.60	.45	.45	.55	.60	.53
Writing Book.....	.05	.05	.05	.06	.05	.05
Speller .....	.30	.14	.19	.11	.10	.17
History .....	.80	.75	.75	.55	.65	.70
Totals	\$4.00	\$3.14	\$3.20	\$2.70	\$2.85	\$ 3.18

TEXT-BOOK.	COUNTIES IN IOWA.					Average cost of each book.
	Polk.	Monona.	Warren.	Winneshiek.	Appanoose.	
Fourth Reader.....	\$.56	\$.45	\$.38	\$.50	\$.40	\$.46
Arithmetic .....	.38	.49	.49	.49	.45	.46
Elementary Geography.....	.44	.55	.44	.44	.45	.46
Grammar .....	.49	.53	.50	.50	.55	.52
Physiology .....	.38	.38	.38	.42	.50	.41
Writing Book.....	.06	.08	.07	.08	.07	.07
Speller .....	.13	.16	.13	.14	.15	.14
History .....	.75	.75	.75	.75	.85	.77
Totals	\$3.19	\$3.39	\$3.14	\$3.32	\$3.42	\$ 3.29

TEXT-BOOK.	Hamburg.	Davenport.	Red Oak.	Rock Rapids.	Burlington.	Waukon.	Boone.	Algona.	Average.
Fourth Reader.	\$.55	\$.40	\$.50	\$.70	\$.55	\$.60	\$.65	\$.50	\$.55
Arithmetic.....	.55	.42	.65	.65	.65	.50	.40	.50	.55
Element. Geog..	.55	.48	.55	.60	.60	.48	.50	.50	.53
Grammar.....	.65	.53	.55	.60	.60	.55	.60	.50	.57
Physiology.....	.50	.42	.45	.45	.65	.45	.40	.40	.47
Writing Book..	.10	.07	.08	.09	.10	.10	.08	.....	.09
Speller.....	.20	.16	.20	.20	.18	.20	.12	.15	.18
History.....	1.00	.79	1.00	1.00	.95	.80	.80	1.00	.....
Totals.....	\$4.15	\$3.27	\$3.98	\$4.29	\$4.28	\$3.00	\$3.00	\$3.75	\$ 3.84

The prices in some of the above cities doubtless include a small amount charged by local dealers for handling the books and for carrying them in stock.

AVERAGE PRICES.

Fourth Reader.....	\$.41	\$.46	\$.55
Arithmetic.....	.48	.46	.55
Elementary Geography.....	.40	.46	.53
Grammar.....	.44	.52	.57
Physiology.....	.53	.41	.47
Writing Book.....	.05	.07	.09
Speller.....	.17	.14	.18
History.....	.70	.77	.90

It should be noted here that the difference in cost is owing mainly to the kind and character of the book in use. One fourth reader may contain fifty more pages than another. There is great difference in the type used and in the mechanical part of the book which may render it superior in every respect to some other book with which it is brought in direct competition. An inferior text-book, like a cheap piece of machinery, or an incompetent teacher, is dear at any price.

I have, also, for purposes of comparison, a fourth reader such as is authorized in the public schools of the province of Ontario. It is well bound, the matter is good, the type plain and unbroken. The book contains 336 pages, but is entirely without illustrations. The selling price is forty-five cents.

Up to this point I have discussed the subject simply from an economic standpoint. No other question has been considered than the cost of the text-books, in cash, to each individual pupil. Much thought and attention has been given to the subject. After investigating the laws in a number of states I am fully satisfied that the text-book law of Iowa, as it stands upon our statute books, is one of the best yet devised. It is free from cumbersome machinery, it invites competition, and counties acting under it are obtaining books at as reasonable rates as those of equal grade can be supplied in any state which has state printing or state adoption. I have examined the price lists of books used in other states, and in none of them can I find that publishers are providing the same books at any less price than they are providing them under their contracts in Iowa. Davenport furnishes a notable instance of a city in which the board of directors is taking advantage of the provision in the law which allows them to contract with the publishers, and sell the books to the pupils at cost, the proceeds being returned to the contingent fund from which the purchase money was originally taken.

The resolution does not call for an extended discussion of the feasibility of state printing or state contract as a means of supplying text books. The truth is that the price of text-books like that of any other commodity, is governed by the laws of trade. The book publisher takes about the same means and methods to advertise his trade that the merchant or manufacturer does to advertise his. An unscrupulous agent takes dishonest means sometimes to accomplish his ends, but the same is true in every business which employs traveling salesmen to sell its goods. The directors of our schools are usually chosen from the best and most upright persons in the community. As a body of men no charge of corruption can justly be brought against them.

There are several things which enter into the manufacture of text-books. In these days when our school curriculum is crowded so full of subjects, and when the public demand is to afford the most education in the least time, the arrangement and selection of material is of the greatest consequence. To include everything necessary for information or discipline, and to exclude everything which is unnecessary, and to arrange points in their logical order so as to present the subject as a whole in an instructive and entertaining manner,

requires the services of one who is peculiarly well fitted for that work. The maker of an acceptable text-book must be a specialist; a thinker, and not a mere compiler. Again, the character of the type used and the texture of the paper cannot be overlooked, as they affect the eyesight of the pupils. Old, indistinct, broken type, glossy paper, poor press work, are the very best reasons sometimes why a cheap book should be discarded. The engravings with which our modern text-book is illustrated are very important adjuncts in the hands of a modern teacher. They should be clear cut, accurate, truthful representations. Such is sometimes the effect of these specimens of art with which some of our books are adorned, that rather than to cheapen them, it would be better to exclude them altogether. While I should be glad to see text-books of the highest grade sold at lower prices, I am forced by my convictions to say that in my opinion we cannot afford to put inferior books into the hands of our children even though they were furnished without money and without price. I cannot do better than to quote from the report I had the honor to make November 1, 1889:

The nearer we can get to the manufacturers, and the fewer middlemen there are to handle the goods, the less is the expense to the consumer. The cost of books would be reduced 33½ per cent, probably more than that, if the boards of directors had power to purchase the text-books in the open market at the lowest wholesale rates. The money with which to do this should be drawn from the contingent fund and replaced from the cash sales of the books. This power could safely be lodged in the directors' hands at all times, and should be made imperative whenever the electors of the district order it done. It should also be made their duty to adopt a series of text-books and to permit no others to be used in the schools of that township. When the order to adopt any given series has been passed by a majority vote of those constituting the quorum, such action should be considered final, and no other series should be adopted for three years. The list of such books, with the prices attached, should be kept posted in every school-room, together with the place where such books may be obtained. It is urged in favor of this plan that it puts up no bar to competition in price or quality, and leaves the interests of the schools entirely in the hands of the people

As the law stands in the code of 1897 all this is now possible. Any school corporation through its directors may deal directly with the publishers and supply its schools with books at the lowest prices granted anywhere. An additional safeguard is found in the requirement that every firm furnishing books under a contract is bound to furnish them at as low a rate as they are sold for in any other district or state. Two

amendments would improve the law. There is a great activity in educational lines to-day looking to improved methods of teaching. For instance the best geography now in use is totally unlike those in use ten years ago. The change has been brought about by the most careful study and research on the part of eminent scholars. The same in a large degree is true of history, arithmetic and other studies. The law should be so amended that if a new and improved edition of any text-book in use under the existing contract is issued during the life of that contract, the old books should be taken up and the new edition furnished without extra expense to pupils in the school. Again, if any family is about to move into an adjacent district, using different books so that the books they now have would become useless, the board of directors should purchase such books at a fair valuation, and resell them in the same manner as they sell other books.

One great objection to state uniformity is that such a law is always accompanied with a restrictive clause, naming a maximum price for each book adopted. Thus if a speller is offered for 10 cents per copy, the commission must adopt it, even though a much superior book in every respect is offered for 12 cents. In such a case the firm offering the cheapest book has the commission in its grip, from which the law allows no way of escape. If, as in Ohio, the commission were authorized to select the best books at not more than 75 per cent of the wholesale price, and if then the books could be furnished to the pupils free of cost, state uniformity would be shorn of half its terrors.

It is still my opinion, as it has been for years, that the solution of the problem is to be found in the adoption of free text-books. If the schools are free in some respects why should they not be in all? It is a noteworthy fact that in no case has a city or state having once made school books free, gone back to the old system.

Districts in twenty-nine different counties are furnishing text-books without cost to the pupils, under the permissive free text-book law as passed by the Twenty-sixth General Assembly and incorporated in the code of 1897. I submit the following extracts from letters from superintendents in charge of schools which adopted free text-books at the last school election.

MISSOURI VALLEY, HARRISON COUNTY.

The apparent advantages of free text-books are: (1) an increase of 9 per cent in enrollment and attendance, without any corresponding increase in the population of the district; (2) a very great saving in that each pupil in each class was provided with books at once and work began without any delay—this item probably equaling an added month to our school year; (3) freedom to use the newest and best text-books in all classes for which new books must be purchased, without reference to those used formerly or by other classes, contracts and adoptions and loss accompanying changes making this impossible under the old system of individual ownership; (4) much greater freedom in re-classifying pupils; (5) a better supply of better books than we ever had before.

It would appear that the cost need not exceed 50 cents per pupil for each year, taking the average of several years. Our first supply has cost about \$1 per pupil, and several classes are using their own books with which they were already provided. This includes books for a large high school. The tendency will no doubt be to furnish a large number of books for reading and reference which the schools have usually gone without.

EAST DES MOINES, POLK COUNTY.

Free text-books have been in use in the East Des Moines schools since the opening of school in September.

The enrollment has materially increased this year, especially in the higher grades.

I am convinced that much time will be saved in the organization of classes, as well as when new pupils enter. Our experience with free text-books is too limited to speak definitely upon this subject, or to give an approximate cost of supplying the books.

There is no doubt in my mind as to the beneficial results attending the introduction of free text-books into our schools.

GLENWOOD, MILLS COUNTY.

Our district began the use of free text-books in September. The attendance the first day was 12½ per cent greater than the first day last year. There is still about this same difference November 17. There was a great saving of time in organizing classes, as all pupils were supplied with books immediately. The same is true with regard to new pupils entering school later in the term.

A proper care of the books makes some extra work for the teachers.

The cost of the books this first year will be close to \$1 per pupil. It will be less in succeeding years.

OTO, WOODBURY COUNTY.

Concerning free text-books, I can say that with us they are a grand success. Our enrollment is 20 per cent greater than for a corresponding length of time last year, or any previous year. It has been necessary to employ an additional assistant. To no other reasons can we attribute so large an increase in attendance. Classification and organization of classes are made simple and easy.

There is no more delaying among pupils, as formerly, securing books when they enter school. Their texts are given them and they are at work at once.

The cost is less per pupil than when the books are owned by individuals.

The books are in the care of the principal, he is responsible for them to the board; likewise each assistant is responsible to him.

Our patrons are enthusiastic over free text-books. On a whole I consider them a greater incentive toward perfecting our schools than any former movement.

The only possible objection the teacher can have is the responsibility he must assume, but the advantages involved outweigh that so much that any live teacher would not hesitate for a moment in advocating them.

CAPITAL PARK, DES MOINES, POLK COUNTY.

Pupils are always supplied with books and consequently are always ready for work. No time is wasted waiting for parents to buy the necessary books. Under the old system, for many pupils the first week of every term was practically wasted.

The attendance is much larger under this system. Many families are too poor to buy books at the call of the teacher, and they are too proud to accept charity books. Many parents will keep their children out of school rather than make the confession that they are dependent upon the district for the support it is then able to give them under the law.

The free text-book system secures a better grading in the schools. A pupil may be changed from one grade to another or from one room to another without making a care upon his parents for new books. It protects the pupils and the patrons from the mistakes of the teachers who frequently order the purchase of the wrong books, on account of unfamiliarity with the pupil's needs.

Contrary to the general opinion, the pupils take better care of their books than when they own them themselves. During the time the books are in use they practically belong to the teacher, and she is in a position to demand that each pupil shall use them with care.

D. F. Witter, a member of the Capital Park school board, has this to say regarding the system:

We have had free text-books in our district for eight years. We adopted the system long before it was legal to do so, but our people were all favorable to it, and we did not fear the result. We have found it a success, and our people would not do away with it under any consideration.

We bought our first books eight years ago, and keep them carefully covered, changing the covers each year, and as a result we still have a great many of the books on hand included in our first purchase. Especially is this true of the more expensive books we have to purchase for the higher grades. In the primary grades, where the pupils have less discretion and do not handle books as carefully, they wear out quicker, but they are cheaper, and the item does not amount to much. Directly the benefit to the residents of the district is very marked. The best estimates are that half the expense of purchasing books, or even more in my opinion is saved the patrons of the school each year. We have found from observation that it costs a person ordinarily about \$15 for books enough to go through the high school if he has to buy them outright, while under our system the cost is about \$3 per pupil for books used in the high school.

We have found that the measure has greatly increased the attendance at our school, and with the exception of a very few persons who go to the

parochial schools, there is hardly a pupil of school age in the district who is not enrolled. This is because there is absolutely no excuse for not sending pupils. The poor are provided with books as well as the rich, and no discrimination is shown. We only charge that pupils shall take good care of the books.

EXIRA, AUDUBON COUNTY.

First, the enrollment was increased, as quite a number are in the school who could not have attended under the old system. Second, the effect upon the organization of classes was very noticeable. We were able to organize, classify, and equip our pupils in about one-fifth the time required by the old system. Third, free text-books greatly facilitate the classification of new pupils. We can start them at once without the usual loss of time in procuring books, etc. Fourth, the free text-book system was introduced this year and I find that the average cost per pupil is only \$1.16. If we estimate the average wear of the books as low as five years, the average cost would be about 25 cents per year. Fifth, from the experience I have had, I cannot see a single adverse circumstance which will render the system undesirable.

In conclusion, I believe that the readiest and most satisfactory solution of the matter is in the free text-book system; that state publication is the most expensive system yet devised; that state adoption, as generally practiced, shuts out competition, and results too often in the use of inferior books to the injury of the school interests; if, however, the commissions were allowed to select from the best and latest books published, at a maximum price not to exceed 75 per cent of the wholesale list, many of the objections to state uniformity would be partially met; that, next to free text-books, the best and cheapest books are obtained when the directors purchase directly from the publishers and sell to the pupils at cost, without the intervention of a middleman, as can be done under the present Iowa law. Forty-three counties are acting under the provision of the law for securing county adoption; several others have uniformity by district adoption. It is safe to say that over one-half the counties in the state are supplying books purchased direct from the publishers.

In this discussion it has been my intention to treat the text-book question without prejudice or favor, conscientiously in all regards. It is one of the things of which I am proud, that during my professional life of twenty five years in Iowa, seventeen as superintendent of the Clinton schools and eight in this office, no publishing firm, or agent of any firm or house, has approached me with any inducement to favor the use or introduction of its books, except as warranted by their merits.

Moreover, during my long term of service as superintendent of public instruction, I have steadily refrained from recommending the books of any particular house or of expressing any approval or disapproval of their use in the public schools. It has been the settled policy of the office to treat the agents of book firms with the strictest impartiality, affording one as much as another the means of becoming acquainted with everything necessary to the promotion of his work, and then we have thought our duty ended. There it has ended.

CONDENSED REPORT.

As provided for by section 10, chapter 24, laws of 1890, of the list of text-books selected by the county boards of education, with contract prices of said books.

TEXT-BOOKS.	Adair.	Adams.	Appan'se.	Benton.	Buena V.	Butler.	Ch'rokee.	Chick's w.	Dallas.	Davis.	Dickins'p.	Emmet.	Fayette.	Greene.	Grundy.	Hardin.	Harrison.	Howard.	Ida.	Jasper.	Johnson.	Jones.
Reader—First	\$.18	\$.13	\$.15	\$.16	\$.14	\$.16	\$.16	\$.15	\$.16	\$.13	\$.18	\$.20	\$.20	\$.18	\$.18	\$.18	\$.12	\$.18	\$.20	\$.17	\$.19	\$.16
Second	.27	.23	.25	.25	.23	.25	.28	.25	.28	.23	.27	.28	.28	.27	.27	.27	.21	.27	.28	.28	.28	.28
Third	.36	.32	.35	.35	.29	.35	.40	.34	.40	.32	.36	.52	.40	.36	.36	.36	.27	.37	.40	.38	.38	.40
Fourth	.45	.38	.40	.45	.38	.45	.56	.45	.56	.38	.45	.52	.52	.45	.45	.45	.38	.48	.52	.50	.48	.56
Fifth	.68	.54	.60	.60	.68	.60	.72	.60	.72	.54	.68	.72	.72	.68	.68	.68	.40	.65	.72	.70	.72	.72
Sixth																						
Speller	.15	.16	.15	.15	.15	.15	.15	.15	.13	.13	.18	.15	.16	.15	.15	.15	.10	.18	.13	.18	.16	.15
* A	.75	.72	.84	.77	.72	.72	.72	.76	.72	.72	.72	.72	.84	.72	.72	.72	.21	.72	.72	.84	.84	.75
Intermediate	.28	.26	.30	.23	.24	.23	.24	.27	.26	.28	.30	.24	.24	.24	.24	.24	.18	.35	.24	.29	.24	.24
Complete	.52	.38	.45	.49	.60	.49	.52	.45	.38	.38	.50		.48	.48	.48	.52	.38	.50	.52	.42	.52	.52
Higher			.75					.64	.06	.64												
Seat Work															.06							
y	.44	.44	.45	.49	.36	.44	.36	.44	.44	.41	.44	.36	.46	.44	.45	.44	.44	.45	.44	.48	.46	.45
	.96	1.00	1.10	.96	.81	1.00	.81	.96	1.00	.90	.96	.81	1.00	.96	.94	.96	1.00	1.00	1.00	1.05	1.05	1.00
	.28	.80	.85	.26	.30	.30	1.00	.87	.15	.15		.15	.26	.87	.32	.87	.75	.32	.32	.33	.32	.80
		.32	.35	.28			.30	.30	.19	.19	.19	.48	.48	.26	.32	.32	.29	.32	.30			
	.48	.49	.55	.50	.50	.50	.50	.50	.49	.49	.49	.48	.48	.45	.50	.50		.55	.45	.55	.53	.50
Grammar and Composition	.23	.28	.25	.24	.36				.24	.45	.38	.38	.40	.23	.24	.23	.24	.25	.23	.44	.26	.23
	.34	.38	.50				.40	.38	.40	.45	.38	.38	.40	.38	.40	.40	.40	.45	.45	.44	.40	.38
	.49	.75	.85	.75	.75	.75	.75	.75	.75	.75	.72	.75	.75	.75	.75	.75	.75	.50	.75	.75	.53	.75
	.45	.48	.50	.45	.48	.45	.45	.45			.45	.45	.48	.45	.45	.48	.45	.45	.45	.53	.48	.45
	.75	.75	.85	.75	.75	.75	.75	.65	.75	.75	.75	.79	.75	.75	.75	.75	.75	.75	.75	.82	.80	.75
							1.20	1.20				.76	.75	.75	.84	.58	1.20	.90		.80	.80	.54
	.75	.66	.95	.45	.68	.75		.75	.54	.54				.75			.81	.90		.92		.80
		.80	.40		.70		.80	.80	.86							.90	.48	.95				.90
		.84	.70				.45	.48		.60				.45	.45		.45					

CONDENSED REPORT—CONTINUED.

TEXT-BOOKS.	Linn.	Louisa.	Lyon.	Madison.	Nebraska.	Marshall.	Miller.	Mitchell.	Monona.	Muscotone.	O'Brien.	Plymouth.	Polk.	Pottawatomie.	Ringgold.	Shelby.	Tama.	Union.	Warren.	Winnebago.	World.	Averages.
Reader—First.....	.15	.16	.20	.20	.16	.18	.16	.20	.16	.18	.16	.20	.16	.18	.13	.16	.16	.18	.13	.16	.15	.17
Second.....	.25	.2	.35	.28	.29	.26	.28	.28	.25	.25	.28	.28	.28	.27	.23	.28	.28	.27	.23	.28	.29	.27
Third.....	.34	.40	.50	.40	.40	.35	.40	.40	.35	.35	.40	.40	.40	.36	.32	.40	.40	.36	.32	.40	.41	.37
Fourth.....	.45	.56	.70	.52	.56	.45	.56	.52	.45	.45	.56	.52	.56	.45	.38	.58	.56	.45	.38	.50	.58	.49
Fifth.....	.60	..	.90	.72	.72	.60	..	.72	.60	.10	.72	.72	.72	.68	.54	.72	.72	.63	.54	.70	.73	.67
Sixth.....	..	..	..	.85	..	..	..	..	..	..	..	..	..	..	.64	..	..	.64	..	..	.87	.73
Speller.....	.15	.15	.15	.13	.13	.15	.20	.19	.16	.15	.15	.14	.13	.15	.13	.15	.14	.16	.13	.14	.16	.15
Word Analysis.....	..	..	..	..	..	.28	.77	.28	.96	.84	.84	.28	.72	1.20	.28	.72	.75	.80	.75	.77	.73	.77
* Writing.....	.72	.72	.81	.72	.72	.72	..	.72	..	..	..	.48	.38	.52	.70	.49	..	.52	.49	..	..	.12
Complete.....	.23	.26	.30	.24	.23	.28	.28	.24	.23	.28	.23	.24	.26	.24	.26	.23	.23	.24	.23	.23	.25	.25
Higher.....	.49	.38	.60	.48	.49	.52	.52	.48	.49	.52	.52	.48	.38	.52	.38	.49	.49	.52	.49	.49	.49	.48
Best Work.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.68
Geography—Introductory.....	.41	.44	.55	.44	.44	.44	.44	.44	.55	.44	.48	.44	.44	.44	.44	.44	.44	.44	.44	.44	.45	.44
Complete.....	.90	1.00	1.25	1.00	1.00	.96	.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.96	1.00	.96	.67	1.01	.97
Physical.....	..	.75	..	.84	..	.87	..	.84	..	.75	..	..	.75	..	..	.94	.87	.80	.87	..	.76	.85
Language Lessons.....	.26	.28	..	.32	.32	.30	.30	.30	.35	.30	.32	.30	.15	.23	.32	.30	.26	.28	.32	.30	.29	.28
Intermediate.....	.38	..	.40	..	..	.32	.32	..	.45	.45	..	.32	.19	.30	.19	..	..	.48	.48	..	..	.31
Grammar and Composition.....	.48	.49	.60	.49	.48	.50	.50	.50	.53	.48	.50	.50	.49	.45	.49	.50	.52	.49	.50	.50	.47	.50
Physiology—Primary.....	.24	..	..	..	..	.23	..	.24	.23	.23	.24	.24	.23	.23	.23	.23	.23	.23	..	..	.25	.24
Intermediate.....	.40	.40	..	.38	.38	.38	.75	.40	.38	.50	.40	.40	.38	.38	.38	.38	.48	.38	.38	.42	.41	.40
Advanced.....	.88	.75	..	.75	.75	.75	.75	..	.75	.75	.80	.75	.75	.75	.75	.75	.75	.75	.75	.88	.76	.75
History—Primary.....	.45	..	.50	.45	.45	.45	.45	.45	.45	.45	.45	.38	.45	.45	.45	.48	.45	.45	.45	.45	.46	.46
Advanced.....	.75	.75	1.00	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.76	.76
General.....	..	..	1.45	1.20	..	..	..	..	..	..	..	..	..	..	..	1.28	..	1.20	1.20	1.21	1.21	1.24
Civil Government.....	..	.54	..	.75	.75	.75	.84	.75	..	.54	.75	..	.54	.54	.54	.75	.57	.54	.48	.75	.76	.69
Elementary.....	..	..	..	..	..	.80	..	..	.95	..	..	..	..	..	.86	.90	.90	.80	.48	..	..	.38
Algebra.....	..	..	..	.80	..	.80	..	..	..	..	..	..	..	..	..	..	..	.80	.80	.86	..	.83
Elementary.....	.45	..	..	.48	..	.48	..	.48	..	..	.45	..	.60	.48	..	..	..	.48	.48	..	..	.48

Price per dozen

TEMPERANCE INSTRUCTION.

The reports from county superintendents indicate that the law is complied with as far as giving the requisite instruction in county normals is concerned. The same is true as far as we can judge from the reports sent to this department by secretaries of school boards in cities and towns.

The subject is an exceedingly difficult one to teach. In the hands of young, inexperienced teachers it may well be questioned whether the instruction is of any great value. It must at any rate consist almost entirely of matter taken from the text-book used in the school. In a large majority of cases the instruction given in the normal institute does not extend much beyond memoritor recitations. It is wanting in that vitalizing power which stimulates the teachers to set forth in their true light the evils attendant upon the use of alcohol and tobacco. Two things contribute to success in this temperance instruction; the intelligence, enthusiasm and moral integrity of the teacher, and the confidence of the community in the midst of which the school is situated.

To attempt scientific instruction at an early age before children are able to reason is harmful, and ought not to be attempted. At a later period, after the child has reached some degree of maturity, scientific study may undoubtedly be introduced with profit. On the other hand, the intention of the law as it stands to-day on the statute book is most beneficent. Teachers are under the strongest obligations to impress by example as well as by precept, the blessing of integrity, sobriety and temperance in all things. The evils which threaten society to-day from the use of alcohol and tobacco by the young, can never be lessened by the study of an elementary text-book, and the memorizing of a few cold, hard facts only. The law is good, but the teacher must go beyond the law, and hold up that lofty ideal of a noble man, a pure woman, a grand life, which can only be reached through paths of honesty, sobriety and industry. While we inform the intellect of the terrible evils which follow in the train of intemperance, we must at the same time strengthen the will, and cultivate the conscience, if we hope to render the child proof against all temptation when he reaches maturity.

SUMMARY

From cities and towns, regarding the manner and extent to which the require-
the teaching and study of the effects of alcoholic drinks, stimulants, and
of said cities and towns, during the school year 1896—1897.

TOWNS.	PRIMARY.			
	What method is em- ployed?	Are text-books used by pupils?	Has a course of in- struction been adopted by the board?	Are your pupils ex- amined in this branch?
Ackley	Oral.....	No.....	Yes....	Yes....
Adel.....	Oral.....	No.....	No.....	No.....
Afton.....	Oral.....	No.....	Yes....	Yes....
Albia	Oral.....	No.....	Yes....	Yes....
Algona	Oral.....	No.....	Yes....	Yes....
Ames	Oral.....	No.....	No.....	No.....
Anamosa	Oral.....	No.....	Yes....	Yes....
Anita	Oral.....	No.....	Yes....	Yes....
Atlantic.....	Oral.....	No.....	No.....	No.....
Audubon.....	Oral.....	No.....	Yes....	No.....
Avoca	Oral.....	No.....	Yes....	Yes....
Bedford	Oral.....	No.....	Yes....	No.....
Belle Plaine.....	Oral.....	No.....	Yes....	Yes....
Bellevue	Oral.....	No.....	Yes....	No.....
Belmond	Oral.....	No.....	Yes....	Yes....
Bloomfield	Oral.....	No.....	No.....	No.....
Boone.....	Oral.....	No.....	Yes....	Yes....
Britt.....	Oral.....	No.....	Yes....	Yes....
Brooklyn.....	Oral.....	No.....	No.....	No.....
Burlington.....	Oral.....	No.....	Yes....	Yes....
Calmar	Oral.....	No.....	No.....	No.....
Carroll.....	Oral.....	No.....	No.....	Yes....
Cascade	Book.....	Yes....	Yes....	Yes....
Cedar Falls	Oral.....	No.....	Yes....	Yes....
Cedar Rapids	Oral.....	Yes....	Yes....	Yes....
Centerville	Oral.....	No.....	Yes....	Yes....
Chariton	Oral.....	No.....	Yes....	No.....
Charles City	Oral.....	No.....	Yes....	Yes....
Cherokee	Oral.....	No.....	Yes....	No.....
Cincinnati	Book.....	Yes....	Yes....	Yes....
Clarinda	Oral.....	No.....	Yes....	Yes....
Clarion	Oral.....	No.....	Yes....	No.....
Clear Lake	Oral.....	No.....	Yes....	No.....
Clinton.....	Oral.....	No.....	Yes....	Yes....
Colfax.....	Oral.....	No.....	Yes....	No.....
Columbus Junction.....	Oral.....	No.....	Yes....	Yes....
Coon Rapids.....	Oral.....	No.....	No.....	No.....
Corning	Oral.....	No.....	Yes....	Yes....
Corydon.....	Oral.....	No.....	No.....	No.....
Council Bluffs.....	Oral.....	No.....	Yes....	Yes....
Cresco	Oral.....	No.....	Yes....	Yes....
Creston	Oral.....	No.....	Yes....	Yes....
Davenport	Oral.....	No.....	Yes....	Yes....
Decorah.....	Oral.....	No.....	Yes....	Yes....
Denison.....	Oral.....	No.....	Yes....	Yes....
Des Moines—Capital Park.....	Oral.....	No.....	Yes....	Yes....
East Des Moines	Book.....	Yes....	Yes....	Yes....
North Des Moines.....	Oral.....	No.....	Yes....	No.....
West Des Moines	Oral.....	No.....	Yes....	No.....
De Witt.....	Oral.....	No.....	Yes....	Yes....

OF REPORTS

ments of Chapter 1, Laws of Twenty-first General Assembly, providing for narcotics upon the human system, have been complied with in the schools

[illegible]

SUMMARY OF REPORTS—

TOWNS.	PRIMARY.			
	What method is employed?	Are text-books used by pupils?	Has a course of instruction been adopted by the board?	Are your pupils examined in the branch?
Dubuque	Oral.....	No.....	Yes.....	No.....
Dunlap	Oral.....	No.....	Yes.....	Yes.....
Dyersville.....	Oral.....	No.....	Yes.....	Yes.....
Eagle Grove	Oral.....	No.....	Yes.....	No.....
Eldon	Oral.....	No.....	Yes.....	Yes.....
Eldora	Oral.....	No.....	Yes.....	Yes.....
Emmetsburg.....	Oral.....	No.....	Yes.....	Yes.....
Estherville	Oral.....	No.....	No.....	No.....
Fairfield.....	Oral.....	No.....	Yes.....	Yes.....
Farmington.....	Oral.....	No.....	No.....	No.....
Fayette	Oral.....	No.....	Yes.....	Yes.....
Forest City.....	Oral.....	No.....	Yes.....	Yes.....
Fort Dodge.....	Oral.....	No.....	Yes.....	Yes.....
Fort Madison	Oral.....	No.....	Yes.....	No.....
Garner	Oral.....	No.....	No.....	Yes.....
Glenwood.....	Oral.....	No.....	Yes.....	No.....
Grand Junction.....	Oral.....	No.....	No.....	No.....
Greene	Oral.....	No.....	Yes.....	No.....
Greenfield.....	Oral.....	No.....	No.....	No.....
Grinnell.....	Oral.....	No.....	No.....	No.....
Grundy Center... ..	Oral.....	No.....	Yes.....	No.....
Guthrie Center.....	Oral.....	No.....	Yes.....	Yes.....
Guttenberg.....	Oral.....	No.....	Yes.....	Yes.....
Hamburg.....	Oral.....	No.....	Yes.....	No.....
Hampton.....	Oral.....	No.....	No.....	No.....
Harlan.....	Oral.....	No.....	Yes.....	Yes.....
Hawarden	Oral.....	No.....	Yes.....	No.....
Hedrick.....	Oral.....	No.....	Yes.....	No.....
Humboldt.....	Oral.....	No.....	Yes.....	Yes.....
Ida Grove.....	Oral.....	No.....	No.....	No.....
Independence.....	Oral.....	No.....	Yes.....	Yes.....
Indianola.....	Oral.....	No.....	No.....	No.....
Iowa City.....	Oral.....	No.....	Yes.....	Yes.....
Iowa Falls.....	Oral.....	No.....	Yes.....	Yes.....
Jefferson.....	Oral.....	No.....	Yes.....	Yes.....
Keokuk	Oral.....	No.....	Yes.....	Yes.....
Keosauqua.....	Oral.....	No.....	Yes.....	Yes.....
Knoxville	Oral.....	No.....	Yes.....	Yes.....
Lake City	Oral.....	No.....	Yes.....	Yes.....
Lamoni.....	Oral.....	No.....	Yes.....	No.....
Lansing	Oral.....	No.....	Yes.....	Yes.....
La Porte City.....	Oral.....	No.....	No.....	No.....
Le Mars	Oral.....	No.....	Yes.....	No.....
Leon.....	Oral.....	No.....	Yes.....	Yes.....
Logan	Oral.....	No.....	Yes.....	Yes.....
Lyons.....	Oral.....	No.....	Yes.....	Yes.....
McGregor	Oral.....	No.....	No.....	Yes.....
Malvern.....	Oral.....	No.....	Yes.....	No.....
Manchester.....	Oral.....	No.....	Yes.....	Yes.....
Manning.....	Oral.....	No.....	Yes.....	Yes.....
Manson	Oral.....	No.....	Yes.....	Yes.....
Mapleton	Oral.....	No.....	Yes.....	No.....
Maquoketa.....	Oral.....	No.....	Yes.....	Yes.....
Marengo.....	Oral.....	No.....	Yes.....	Yes.....
Marion	Oral.....	No.....	Yes.....	No.....
Marshalltown.....	Oral.....	No.....	Yes.....	No.....
Mason City	Oral.....	No.....	Yes.....	No.....
Missouri Valley.....	Oral.....	No.....	Yes.....	Yes.....
Montezuma	Oral.....	Yes.....	Yes.....	Yes.....
Monticello	Oral.....	No.....	No.....	No.....
Moulton.....	Oral.....	No.....	Yes.....	Yes.....
Mt. Ayr.....	Oral.....	No.....	Yes.....	No.....
Mt. Pleasant.....	Oral.....	No.....	Yes.....	No.....
Mt. Vernon.....	None.....	No.....	No.....	No.....
Muscatine.....	Oral.....	No.....	Yes.....	Yes.....

CONTINUED.

[illegible]

SUMMARY OF REPORTS—

TOWNS.	PRIMARY.			
	What method is employed?	Are text-books used by pupils?	Has a course of instruction been adopted by the board?	Are your pupils examined in this branch?
Mystic.....	Oral....	No....	No....	Yes....
Nashua.....	Oral....	No....	Yes....	No....
Nevada.....	Oral....	No....	Yes....	Yes....
New Hampton.....	Oral....	No....	Yes....	Yes....
New Sharon.....	Oral....	No....	Yes....	Yes....
Newton.....	Oral....	No....	Yes....	Yes....
Nora Springs.....	Oral....	No....	No....	No....
Northwood.....	Oral....	No....	Yes....	Yes....
Odebolt.....	Oral....	No....	Yes....	Yes....
Oelwein.....	Oral....	Yes....	Yes....	Yes....
Onawa.....	Oral....	No....	Yes....	Yes....
Orange City.....	Oral....	No....	Yes....	Yes....
Osage.....	Oral....	No....	No....	Yes....
Osceola.....	Oral....	No....	Yes....	Yes....
Oskaloosa.....	Oral....	No....	Yes....	Yes....
Ottumwa.....	Oral....	No....	Yes....	Yes....
Pella.....	Oral....	No....	Yes....	No....
Perry.....	Oral....	No....	Yes....	No....
Red Oak.....	Oral....	No....	Yes....	No....
Reinbeck.....	Oral....	No....	No....	No....
Rockford.....	Oral....	No....	Yes....	No....
Rock Rapids.....	Oral....	No....	Yes....	Yes....
Sac City.....	Oral....	No....	Yes....	Yes....
Sanborn.....	Oral....	No....	Yes....	No....
Seymour.....	Oral....	Yes....	Yes....	Yes....
Sheldon.....	Oral....	No....	Yes....	Yes....
Shenandoah.....	Oral....	Yes....	Yes....	Yes....
Sibley.....	Oral....	No....	Yes....	No....
Sigourney.....	Oral....	No....	Yes....	Yes....
Sioux City.....	Oral....	No....	Yes....	Yes....
Spencer.....	Oral....	No....	Yes....	Yes....
Spirit Lake.....	Oral....	No....	No....	No....
Storm Lake.....	Oral....	No....	Yes....	No....
Stuart.....	Oral....	No....	Yes....	Yes....
Sumner.....	Book....	Yes....	Yes....	Yes....
Tama.....	Oral....	No....	No....	No....
Tipton.....	Oral....	Yes....	Yes....	Yes....
Toledo.....	Oral....	No....	Yes....	Yes....
Traer.....	Oral....	No....	No....	Yes....
Villisca.....	Oral....	No....	Yes....	No....
Vinton.....	Oral....	No....	Yes....	No....
Wapello.....	Oral....	No....	Yes....	No....
Washington.....	Oral....	No....	Yes....	No....
Waterloo, East.....	Oral....	No....	No....	No....
Waterloo, West.....	Oral....	No....	Yes....	No....
Waukon.....	Oral....	No....	Yes....	Yes....
Waverly.....	Oral....	No....	Yes....	No....
Webster City.....	Oral....	No....	Yes....	No....
West Liberty.....	Oral....	No....	Yes....	Yes....
West Union.....	Oral....	No....	Yes....	No....
What Cheer.....	Oral....	No....	Yes....	No....
Wilton Junction.....	Oral....	No....	No....	No....
Winterset.....	Oral....	No....	Yes....	Yes....
Woodbine.....	Oral....	No....	No....	Yes....

CONTINUED.

[illegible]

Necrology.

J. C. Gilchrist.

• J. W. McClellan.

C. P. Rogers.

G. F. Magoun.

J. M. DeArmond.

H. I. Coughlan.

G. E. Bancorne.

*"Time takes them home that we love, fair names and famous,
To the soft, long sleep, to the broad, sweet bosom of Death;
But the flower of their souls he shall not take away to shame us,
Nor the lips lack song forever that now lack breath.
For with us shall the music and perfume that die not dwell,
Though the dead to our dead bid welcome, and we farewell."*

J. C. GILCHRIST.

Born in Allegheny City, Pa., May 20, 1831. Educated at Antioch under the care and guidance of Horace Mann, whose memory he held in great reverence. In 1860 he took charge of the seminary at California, Washington county, Pa., and was instrumental in converting it into a normal school. He came to Iowa in 1871 to engage in institute work and was chosen superintendent of the schools at Mason City in 1873. In 1876 he was elected president of the State Normal School, then just established at Cedar Falls. He continued in this position for ten years, and during that time laid broad and deep the foundations of solid learning and high scholarship upon which the school rests to-day. He was afterwards president of the Northern Iowa Normal School at Algona, and later dean of the normal department of the Northwestern University at Sioux City. He filled all these positions creditably and with usefulness to the cause of education.

"As a teacher he magnified his office. Teaching was to him 'a high and holy calling, worthy of the ambition of the best minds.' He held before his pupil teachers as an ideal, the placing of their vocation among the learned professions. To him, the teacher's mission was second to none; its aims were not temporal, but eternal; its rewards not human, but divine."

He died at Laurens, Iowa, August 12, 1897.

J. W. McCLELLAN.

Born December 28, 1841, in Coatesville, Pa. Educated at Lafayette college, Easton, Pa. Was a member of the Forty-third Pennsylvania infantry in the civil war, and acted as a bearer of dispatches at the battle of Gettysburg. Superintendent of schools at Marion, Iowa, 1869 to 1881 Superintendent at Vinton, Iowa, 1885 to 1895. Died in Pennsylvania, June 6, 1896. "He was a true gentleman, a genial companion, a rare type of Christian manhood, and a faithful worker in his chosen field. His monument is already reared in the hearts and lives of hundreds in Iowa and throughout the west."

C. P. ROGERS.

Born in Kingston Center, Ohio, June 22, 1844. Member One Hundred and Forty-fifth regiment Ohio volunteers during the war. His regiment was stationed on the plantation of General Lee at Arlington Heights. A graduate of the State University of Iowa, 1869. Superintendent Marengo schools, 1869-1874. Superintendent Marshalltown schools, 1874-1896. "Iowa's educational history, if it commends the deeds and ability of any of this generation, can never be silent concerning the career and the professional accomplishments of the lamented Commodore Perry Rogers."

G. F. MAGOUN.

Born in Bath, Me., March 29, 1821. Graduated from Bowdoin college, 1841. President of Iowa college, 1862-1884. Professor of philosophy, 1884-1890. Died at Grinnell, January 30, 1896. "The dignity of his mind and manner was that of a gentleman of the old school. His memory will remain an honored and honoring possession in the educational circles of the state to which he gave the greater part of his life."

J. M. DEARMOND.

Born in Blair county, Pennsylvania, September 7, 1846. Graduated at Davenport high school, 1869. Principal in Davenport, 1869-1885 and 1890-1895. Died in Davenport, June 4, 1896. "He was an industrious student, an able and enterprising educator, an inspiring teacher, conscientious and faithful in the discharge of every official duty, and highly esteemed as a man in the community in which he lived."

H. I. COUGHLAN.

Born at Mingo, Iowa, September 23, 1861. Graduated from the State university, 1888. Elected principal of the grammar school in Iowa City, 1890. Died at Iowa City, March 12, 1896. "He was a rare teacher, an ornament to his profession, a good citizen, and a consistent Christian. The good of such lives lives after them."

G. E. HANCORNE.

Born in Michigan 1865. Superintendent Nashua schools, 1894. Died in Lansing, Mich., July 29, 1896. "What many a king and princely ruler would gladly have given his wealth and crown to obtain when his last moments came, he possessed the knowledge that the little children to whom he had been a true friend would water his grave with their tears."

SCHOOL EXTENSION.

A movement has just been inaugurated, in some respects like the Chautauqua plan, for using the school as the center for promoting home reading among families, and the older pupils after they have finished their schooling. As at present conducted the school has but little hold upon the pupil when he ceases to be a member of it.

His education, if it can be called an education, leaves him without any thought of bringing to perfection what he has just commenced. It has implanted no seeds of growth, but rather it seems to dwarf and hinder his progress. His education has no future; it faces no hereafter. The remedy is to so conduct the pupil's reading while under the care and guidance of his teacher that he will not be willing to drop it when he is through school. The mental stimulus which he has derived from books should still be necessary to his happiness and contentment. It should direct and inspire his intellectual life when he reaches maturity.

The youth who, when he leaves school, is in some degree acquainted with books, who has been taught to obtain knowledge and mental power from the printed page, is able to work out his own education in whatever direction his natural taste may lead him. He can know, if he will, what past civilizations have accomplished and, what is more, he can keep himself informed of the changes which the civilization of the present is undergoing. To him life loses its barrenness. He dwells no longer in the midst of the trackless desert, but amid the delights and beauties of a fruitful field.

The school and the home have a community of interests of which we make too little account. Dr. Harris says: "The school has never done one-tenth of what is possible to be done in the way of assisting the child, and through him the parents, to reap the full value of the art of reading and writing, and intercommunication with one's fellow men."

The problem before us is how to broaden the scope of the public school so as to make it an important factor in community life. I am convinced that it cannot be done by multiplying the

number of studies, nor by increasing the severity of the technical examination which the teachers must pass in order to receive a certificate. Our teachers have been taught to look upon the school as an isolated place, a fragmentary thing, whose worth and usefulness is largely measured by the amount of the monthly stipend. The teacher's conceptions of the province of the school need to be developed in almost every direction.

The aim of education is not only the acquisition of knowledge, but the ability to retain it and use it so as to make the home happier, the neighborhood more charitable, and to lift up an ideal standard of manhood which will eventually "draw all men unto it." This is what school extension aims to do by introducing the best books into the school and the family circle. It goes out after the boys and girls who have left the school, and strives to retain an influence over them which will keep them within the charmed circle of those who love books and read them for self improvement.

In the eastern states, in New York and in Chicago, school-rooms are opened one or two nights each week, and men eminent for their acquirements, give lectures for the people free of charge, and they do not lack for interested audiences. This work of school extension is not necessarily confined to large towns or cities. It could be introduced with profit into our smaller villages and even in rural districts. Iowa has \$15,000,000 invested in schoolhouse property, besides large sums in apparatus and libraries. We ought, out of this vast sum, to get richer returns than we do.

It is comparatively a new field, but it promises good results.

In this connection I may well quote the following extract from President Eliot:

The fundamental object of democratic education—to lift the whole population to a higher plane of intelligence, conduct, and happiness—has not yet been perfectly apprehended, even in the United States.

PUBLIC SCHOOL LIBRARIES.

During the biennial period for which this report is made, I have frequently brought to the notice of county superintendents the desirability of awakening and increasing an interest in establishing libraries for the benefit of the children of the public

schools. My predecessors in office have urged no less strongly than I. In many counties the results have been most gratifying, while in others but little has been accomplished. Very much is to be hoped from the provision of the code of 1897, which allows boards to expend \$25 for each schoolroom, in purchasing libraries, without the vote of the electors.

As an aid and guide in the selection of books, this department has published and sent out a circular of information containing the names, the list prices and the publishers of 200 choice books suitable for libraries. The name of each book is accompanied by a short note so that the purchaser may ascertain something of its nature and its fitness for his purpose. We believe this circular will prove serviceable to secretaries and teachers in making up or adding to a school library.

In the hands of an intelligent, cultivated teacher the library becomes a very useful auxiliary in reaching the people in their homes. Without it school extension is almost impossible. The boy who is interested in his reading and talks about it at home and in school is not generally a difficult boy to manage. The young people in the community who come back occasionally to the schoolhouse for a book from the library, form a bond of sympathy between the school and the people which goes far towards establishing and maintaining mutual confidence and respect.

Probably not more than 94 per cent of the children ever go beyond the elementary branches, yet they are to vote, to hold office and to enjoy all the rights and privileges of citizenship. Their toil will be lightened, their lives made brighter, the home atmosphere purer and more wholesome by teaching them as a part of their school education to consult the printed page along lines of which literature, science, history or art are the chief.

This matter of libraries, the choice of books, how to read them, how to induce pupils and people to read them, deserves much more attention than it receives in our schools.

In our normal schools, and in our institutes, we dwell too exclusively upon the technical side of the subject as presented by the text-book. How shall I best teach reading, writing, arithmetic, are important questions; but far greater is the question how shall I reach the pupil in his innermost consciousness, so that he will continually grow, not alone in knowledge but in wisdom. That he should be able to earn an honest living and support those dependent upon him is a

worthy aim. To this end honesty, prudence, economy, thrift, should all be inculcated in his daily lessons. But it is far more important to so shape and mould his education at school that it may influence his entire conduct towards his neighbor and the world, and that dying he may feel that his life has added a unit to the sum total of human happiness.

**DISTRICTS IN 1897 REPORTING A LIBRARY OF MORE THAN
250 VOLUMES.**

DISTRICT.	Volumes.	DISTRICT.	Volumes.
Abingdon	500	Delta	850
Ackley	720	Denison	1,500
Agency	358	Des Moines, E.	1 500
Albia	700	Des Moines, W.	4,390
Allerton	600	De Witt	400
Alta	350	Dexter	400
Alton	578	Doon	408
Amana, D. T.	558	Dubuque	3,800
Arcadia	250	Dunlap	550
Atlantic	1,000	Dyersville	250
Audubon	518	Dysart	600
Bedford	313	Earlville	250
Belle Plaine	280	Eddyville	250
Bellevue	407	Eldora	570
Belmond	389	Elkader	250
Black Hawk, D. T.	265	Elliott	250
Bloomfield	251	Elma	320
Boone	2,000	Emerson	340
Britt	295	Emmetsburg	1,450
Brooklyn	540	Farmington	556
Burlington	1,000	Fayette	275
Calmar	310	Fonda	380
Capital Park	2,800	Fort Dodge	585
Carroll	300	Fort Madison	1,500
Cedar Falls	700	Fremont City	330
Cedar Rapids	1,300	Garner	304
Centerville	389	Glenwood	2,400
Central City	300	Grand Junction	275
Chariton	275	Grand Meadow, D. T.	259
Charles City	340	Grant, D. T.	280
Cherokee	500	Grant, D. T.	284
Clarence	550	Grant, Ind. T.	266
Clarinda	1,000	Grinnell	1,500
Clinton	7,869	Grundy Center	900
Corning	520	Hamburg	750
Correctionville	350	Hampton	578
Cresco	410	Harlan	400
Creston	800	Hawarden	260
Dale, D. T.	308	Highland, D. T.	312
Dallas Center	250	Humboldt	386
Davenport	2,500	Ida Grove	300
Decorah	600	Independence	1,850
Defiance	250	Indianola	320

DISTRICTS IN 1897 REPORTING A LIBRARY OF MORE THAN
250 VOLUMES—CONTINUED.

DISTRICT.	Volumes.	DISTRICT.	Volumes.
Iowa City	1,796	Panora	789
Irvington, D. T.	371	Parkersburg	380
Jackson, D. T.	275	Perry	400
Jefferson	850	Primghar	350
Kalona	280	Red Oak	2,000
Keokuk	1,600	Reinbeck	300
Keosauqua	265	Richland	330
Knoxville	1,200	Rockford	305
Lake City	280	Rock Rapids	250
Lansing	500	Rock Valley	260
La Porte City	375	Sabula	1,010
Le Claire	495	Sanborn	510
Le Grand	350	Scranton	250
Le Mars	650	Shelby	632
Lenox	250	Sheldon	440
Liberal, Ind. T.	320	Shell Rock	350
Liberty, D. T.	415	Shiloh, D. T.	270
Long Creek, D. T.	250	Sibley	325
Lynn Grove, D. T.	585	Sigourney	400
Lyons	500	Sioux City	1,400
Madison, D. T.	250	Smithland	300
Manchester	283	South English	315
Marathon	360	Spencer	350
Marcus	305	Springdale	500
Marengo	1,200	Springville	500
Marion	425	State Center	400
Marshalltown	8,000	Storm Lake	1,100
Mason City	300	Stuart	650
McGregor	765	Tama	600
Melrose, D. T.	286	Tipton	1,100
Miles	435	Toledo	860
Milford	280	Traer	578
Missouri Valley	300	Union, D. T.	270
Montezuma	250	Vail	661
Monticello	377	Vernon, D. T.	268
Montrose	301	Vernon, D. T.	300
Moulton	872	Victor	300
Mt. Ayr	500	Villisca	375
Mt. Pleasant	250	Vinton	350
Muscatine	1,200	Wacousta, D. T.	300
Nashua	321	Walnut	275
Newell	476	Waterloo, E.	560
New Sharon	300	Waterloo, W.	524
Northwood	300	Waukon	640
Norwalk	250	Waverly	1,650
Olin	280	Webster City	320
Onawa	500	West Bend	300
Orange City	535	West Branch	380
Osage	346	West Liberty	350
Osceola	300	What Cheer	300
Oskaloosa	1,960	Woodbine	453
Ottumwa	1,100		

THE INTEREST OF MOTHERS IN THE SCHOOLS.

During the last biennial period there has been a marked interest displayed by mothers in the schools which their children attend. While this is a most hopeful sign, there remains much yet to be done. Even our teachers do not seem to be awake to the immense influence for good which the mothers can exert, and are exerting in many communities, in favor of more rational and wholesome school privileges for their children. The professional training of the teacher is an element of success, but not by any means the only element. I have sometimes thought that in placing so much stress upon training the teacher, we forget that the all-potent influence in the education of the child is the home and that its center is the *mother* in that home.

In some sections of the state mothers are in the habit of holding meetings, visiting schools, planning with teachers the best things for the children, and thus they have been instrumental in correcting evils which have been too long endured by the community. The practice has met with my most hearty approval. Wherever possible I have encouraged it, because in it I see the dawn of better days for our common schools. At the last meeting of the southeastern association, held at Oskaloosa, a part of the program was devoted to the interests of mothers in the schools and it proved exceedingly interesting and instructive.

At the spring meeting of the southwestern Iowa teachers' association, part of the program consisted of a symposium touching the relations existing between the mother and the school. The papers breathed such an excellent spirit, and were so helpful in their suggestions that it seemed to me wise to print them as a circular of information, and scatter them broadcast among the mothers of the state. The first edition of 30,000 copies was soon exhausted and of the second edition of 20,000 but few are left. Requests come for them every week not only from this but from other states. We would gladly reprint them in this report but there is not room for them.

We have, however, made such extracts from each one as show the admirable spirit of the writer.

Extracts from the paper read by Mrs. A. P. Hanchett, of Council Bluffs:

Teachers, do you understand how suddenly you have taken, for at least many hours during the day, a mother's place to the army of little boys and girls under your care? Do you realize you are watched; every movement, every smile, every frown, every hasty word, even to the change of ribbon at your neck? A smiling face during the long trying day makes its impression on each little heart, and is the first thing mentioned as the boy takes his place at the dinner table. The child reflects with such precision the manners and habits of his teacher that a close observer could readily give a mental photograph of the teacher of each boy and girl.

The teacher in our public schools must certainly realize the fact that she is not governess in a millionaire's family, but a servant of the commonwealth, dealing with the children of the rich and poor alike. The boy who comes from the humbler walks of life in our great republic has a chance to be at its head in a few years; he may sit side by side with the rich man's son and far outstrip him in rank. Teacher, help this boy along. He may get little help at home, but remember that under the ragged jacket and dusty cap there may exist a nature far finer and more sensitive than you find under broadcloth and velvet.

The teacher who hangs pretty pictures on the walls of her schoolroom, places plants in the windows, and is neat and attractive in her own appearance, not only inspires her pupils to be as she is, refined and cultivated, but the influence is carried to the home. In a school not far distant, a prize was offered for the best collection of copies of great paintings. The children, through their teacher, became very much interested in their search for the pictures. A little girl belonging to this school was taken ill, and the teacher, together with a friend, went to see her. They found the home a hovel; nothing that in any degree indicated refinement; but hanging on the wall, where the sick girl could look at it, was a rude wood cut pasted on gray card board, a copy of Rosa Bonheur's famous "Horse Fair." The lady who came with the teacher was surprised to see this piece of art in such a home, but the teacher was not, for she had noticed the enthusiasm of this little child as she admired the pictures brought into the schoolroom from day to day.

We are not here to pronounce a eulogy upon every teacher who enters the schoolroom, for there are those, under whose care we place our children, who are far better fitted for the position of matron in a reformatory than as leaders and teachers of our boys and girls. But to the faithful, conscientious woman who toils day by day, not only to train the minds of our children, but looking after the manners and morals as well; to her we bid Godspeed! May she long adorn the position she now fills, and may every father and mother give to her their hearty support.

George Macdonald uttered a most beautiful sentiment when he said: "The woman who takes into her heart her own children, may be a very ordinary woman; but the woman who takes into her heart the children of others, she is one of God's mothers."

Extracts from the paper read by Miss Jennie L. Redfield, of Omaha:

Intelligent mothers demand that our schools develop their children mentally, morally, physically. The teachers must possess affection, refinement, must give fair play, and each work to the realization of some ideal. The peculiarities, dispositions, shortcomings and natural propensities of the children must all be studied and developed or overcome, as is best for the completion of a perfect character.

It is the desire of every good school to so develop the pupils that they may become this complete character; that they may read themselves into this beautiful world—behold the glory of the heavens, the magnificence of the fields, forests and plains, the mysteries of the waters, the grandeur of the rocks and mountains. It is the school's intention to develop in each individual good deportment, honesty, caution; that out of these may grow truth, reverence and love; to teach him to know and understand himself and his fellow beings, that our prisons may be emptied and remain so; that the records of suicides may be diminished; that homes may be made happy; that individuals may exult in the life here as God intends they shall.

The conditions would become rapidly better if parents would take the time to acquaint themselves more with the operations of the schools in their daily work, to see the capabilities of their children and those of others. Just to see a little child stand and talk—not read from the written or printed page, but to hear him recite something which he has studied, to see the result of his reasoning, certainly would be an inspiration to any fond mother, and in turn her appreciation and presence would prompt both pupil and teacher to better and higher work then and forever. The truth of this last assertion has been very strongly impressed upon me this week during my visits to the schools in Council Bluffs, where I saw wonderful workings by little people in arithmetic by a method comparatively new to me.

Much of the child's prattle is better understood after a visit to the school. Do you mothers consider what it is for a child to go to school to study six long hours every day—thirty hours a week—on arithmetic, grammar, geography, spelling, reading, writing and drawing—every morning at nine in the seat—in position—ready to work? Think of it. Think of all the temptations which come to the boy or girl who objects to study, objects to obeying, objects to confinement,—think it all over, and you will have more patience with your boy or girl, with his or her so-called eccentricities, perhaps extend your sympathies to the teacher and the other pupils—and visit the school to see what can be done. Often the visit alone will suffice to set everything into harmonious action.

Do mothers know how much they assist in bringing out the latent powers of their own children and of their children's classmates? I wonder if they can appreciate the effect of a cleanly dressed child on a school? What polished shoes mean to the good behavior of a class? What carefully combed hair does for the other children? Can they know what a sweet "Good morning!" from a child taught at home to say it, means? How far a graceful bow reaches? How a natural smile from a sweet-tempered child permeates the whole atmosphere? Do they know that some heavy-hearted children never smile until taught to do it by atmosphere made light and bright from our better homes?

Do mothers realize that many, yes many, children who attend our schools get their only bodily comforts within its walls? That to many children a warm, well-ventilated sleeping room, a flower, a pretty picture, music, a good morning, a good night, a caress, are all unknown at their homes? These things, too, teachers know and endeavor to keep them secret.

Extracts from the paper read by Mrs. A. B. Shaw, of Corning:

One evening last week I gathered in my parlor a half dozen of the teachers in our Corning schools, under whose care my own children have been the past nine years, and we talked the matter over freely together.

It was an experience not soon to be forgotten. The firelight shone on bright and eager faces. Voices that were tremulous with earnest feeling, spoke to me of the ways in which the mothers, if they only would, could tenfold increase the efficiency of the schools. And in the course of two hours' unrestrained intercourse not a trace of selfishness showed itself. They did not suggest that one of the pressing duties of the parent was to see that the teachers were decently paid for their services, that they might be able to take advantage of every opportunity for better fitting themselves for their work, and to save them from a pensioned old age. They did not ask for personal sympathy or encouragement.

In the primary rooms the greatest evils seemed to be untidiness and irregularity. A dirty child, who comes late, or only two or three days in the week, is a much greater trial to a good teacher, than a mischievous or even a naughty one. An irregular scholar not only fails to gain anything himself from the class work and drill of the schoolroom, but he disorganizes to an almost unendurable degree the work of more punctual children. If there are many such pupils in a room, all an earnest teacher's best directed efforts will fail to accomplish the ends desired. In time she, herself, becomes discouraged, relaxes her endeavors, and loses the keen interest in her work, which alone redeems it from the most unmitigated drudgery. The remedy for these evils assuredly lies entirely in the hands of the mothers.

A little further up in the scale, where the children are first beginning to take an interest in independent reading, the teacher was most anxious for aid in directing and assisting that interest. If the mothers would help to put good books, bright, healthy books into their hands, keep from them dime novels and sensational stories, help them in learning to use books of reference, and in forming a taste for pure, clean literature, it would make the teacher's work so much more effective.

In the grammar grades the thought went back to the physical conditions again, the teacher finding the weight of responsibility resting upon her almost greater than she could bear alone. If the mothers could only help us in our fight against cigarette smoking, vile language, impure thoughts and habits. These eradicated or suppressed we could do unspeakably more for the children in the grammar rooms. These same evil tendencies, carried into the high school, are responsible for 80 per cent of the failures in recitation; a bar to progress with youths who otherwise might be trained, intellectually and morally, for good and useful citizenship.

The talk that I had that evening proved to me that the average teacher realizes fully her need of outside aid to best develop her pupils into symmetrical, well-rounded characters, and that her thoughts are earnestly turning to the mothers for that aid.

In my own mind the only doubt I have had as to the mothers' meetings coming to their highest state of usefulness, has been lest they should not reach down and rouse the mothers who most need the help that they could give.

There are mothers who send their children to school to get rid of the care of them, and who leave them upon the streets, out of school hours, for the same sad reason; who keep the child out of school on the most trivial excuse, and who listen to his tales and complainings about his teachers with ill-advised sympathy. The mothers who, ignorant themselves as to proper clothing, proper food, sanitary conditions of any kind, are beyond all words unfit to have the care of an immortal being.

With their children ours sit side by side in school. They breathe the tainted air of those uncleansed bodies. They are influenced by the vulgarity and immodesty of those untrained minds.

Oh! mothers of the better classes, here is work for your hands to do, that will repay an hundred-fold, the time and strength you give.

If you can, through these mothers' clubs, reach down and raise those other mothers to a higher level, you will have done for them, for their children, for the schools and for your own children, a good which there is no computing.

Besides the mothers' clubs there are many other ways in which the mother's influence can be made beneficial to the schools. Chief among these, it seems to me, would be the placing of broad-minded, intelligent women, in whom the people have confidence, upon our boards of education. In this state the experiment has been but little tried, but in Kansas and Colorado, and possibly in other states, it has passed the stage of experiment and is a pronounced success.

It ought not to be necessary to appeal to mothers in behalf of the schools which their children attend, and yet if we could reach every mother in the state we would say that the thing which we most greatly need is your influence on the side of better schools. Not necessarily better from an intellectual standpoint, but better in every way, especially in those surroundings and conditions which conduce to the physical and moral welfare of your child.

When you leave your little one at the schoolroom door you have added to the responsibility of the teacher, but you have not in the least degree diminished your own. You cannot divide with the teacher of your child that stern responsibility which attaches itself to the sacred office of motherhood.

One of the great problems of the day is how to bring the home and the school together that they may work along the same lines and thus be helpful to each other. You can do

much to help your teachers make their schoolrooms attractive and beautiful. It is not a selfish work which thus appeals to you. It reaches beyond your own fireside, and includes every household in your neighborhood. More than this, it reaches far into the future, because the children who are mates in school to-day will be fellow citizens of a free government in the next generation. Whatever you can do to improve the character of the entire school will render existence more tolerable for your children when they assume the responsibilities and duties of active life. The most sacred work that is done in the world is that which has for its object the best education possible for every child.

TRAINING FOR CITIZENSHIP.

Very much that passes for patriotic teaching has but little effect in making a good citizen of the child. It produces no lasting impression because it appeals only to transient impulses which are forgotten in a day. To implant the germs of good citizenship it is necessary to inform the child of the principles upon which republican institutions rest. We must teach more than we do in our public schools that the will of the majority constitutionally expressed must be obeyed; that the elective franchise whereby the will of the majority is ascertained must be guarded against fraud in any and every form; that it is the duty of the individual to vote in accordance with his honest convictions of what is best for the whole country; that intelligence, respect for lawfully constituted authority, the right of every man to make the most of life for himself and his children, honesty in business transactions, uprightness in public as well as private life, are the safeguards of republican liberty.

No thoughtful student of history can look to the future of our country without anxiety and alarm. At the same time there is reason for hope and courage in our system of public education which opens the schoolhouse door to the child of every man. But we must not in our eagerness to extend our school curriculum and multiply the number of branches lose sight of the fact that the first great duty of the public school is to so train the child that he may discharge rightly, magnanimously and conscientiously all the duties of American citizenship. For this purpose our fathers founded the public school,

for this it has been maintained for generations, and for this we hand it down to our children as a sacred legacy of the past to the future.

If we teach patriotism we must inculcate an honest respect for the flag, as it symbolizes the power and strength of a great country. If we teach history, it must be with unflinching regard to the truth. It is not necessary to speak of England as an ancient enemy, but we must not neglect to bring to the notice of our children the names and deeds of Washington and Franklin and Jefferson, of all our revolutionary sires. The seeds of sectional hate and animosity should be buried forever, but we cannot blot from our histories the names of Lincoln and Grant, nor the renown our soldiers won at Vicksburg and Gettysburg. Washington's farewell address should be read on his birthday in every school, and Lincoln's Gettysburg speech should be engraved and hung on the walls of every school-room. To make an intelligent citizen the child must know why he is proud of his country.

THE SUPERVISION OF RURAL SCHOOLS.

In the office of county superintendent the effectiveness of the work depends upon the character of the office. One county superintendent reports 20 schools visited, no educational meetings held, no active members of the reading circle; \$1,250 salary. Another reports 165 schools visited, 39 educational meetings and 160 teachers in the reading circle; salary \$1,200. It is pleasant to say that women have uniformly filled this office with a painstaking conscientious fidelity to duty which has rendered their work of great benefit to the schools under their charge. Iowa claims the honor of having the first woman county superintendent. In 1869 Miss Julia C. Addington, of Mitchell county, was appointed to fill a vacancy and chosen by the electors for the next full term. Washington county has had a woman for county superintendent continuously since 1876. The following table will be of interest in this connection: Number of women county superintendents for term commencing 1870, 1; 1872, 3; 1874, 5; 1876, 10; 1878, 7; 1880, 5; 1882, 9; 1884, 11; 1886, 10; 1888, 8; 1890, 14; 1892, 12; 1894, 13; 1896, 15; 1898, 11.

Supervision is a blessing or a curse in proportion to the degree of intelligence and skill with which it is administered. The personality of the supervisor, which some one says "consists of consciousness, character and will," is worthy the first consideration. He should be selected with reference to his peculiar fitness for the duties of his office. In this respect the city schools have an advantage arising from the fact that the superintendent is usually chosen from a number of candidates because he seems to be the one having the highest qualifications, while the county superintendent is too often sifted out by the whirligig of politics, with reference to such availability alone, or in order to balance the ticket. The tendency manifested in many states to require some qualifications as to character, scholarship, and experience from the candidate who aspires to the office of county superintendent, is one of the most hopeful signs of improvement in the nature and efficiency of rural school supervision. The provision of the Iowa law which requires the county superintendent to hold a first grade certificate or a paper from the state board of examiners is a step in the right direction and meets with the hearty approval of the educational public.

The country schools need a supervision which in its entirety and in its wholesome effects challenges the respect and support of everyone who is interested in the welfare of the schools. They need a supervision which is broad in its scholarship without being shallow. The supervisor should make no pretense of knowing everything, but he must be well grounded in those studies which enter into the rural school curriculum. He should have a varied and successful experience in this kind of work before he enters upon the duties of his office, in order that he may be able to devise and execute plans looking to the best education which it is possible for these schools to afford. A man may know the entire process of manufacturing Bessemer steel and not be a good blacksmith; he may be an adept in the sciences, or at home in languages or literature, and yet not be able to manage a school of forty pupils; so he may be a most excellent disciplinarian, and an exceptionally good instructor, and be lacking in the qualifications necessary to success as a supervisor of a system of schools. In selecting a suitable person to oversee a system of rural schools, in addition to a reasonable education and a clean personal character, we should look

for power of adaptability to circumstances and ability to discern the fitness of things, so that he may accomplish all that which is possible without attempting the impossible. The integrity of his heart, the nobleness of his aim, the honesty of his purpose, should be so patent in his life as to render him secure in the respect and confidence of all with whom he comes in contact.

We regret that the office of county superintendent must for years to come be political in its nature, but the officer himself should be a politician only in the highest and broadest sense of that word. The time will undoubtedly come when politics will be eliminated from the election of school officers. Until then we must make the best of circumstances and elect to the office of supervisor or superintendent persons who carry their conscience into their work, and who, therefore, will when inducted into office regard in its fullness their official oath. Such men of either party will conduct themselves as citizens and not as partisans, and will discharge their duties looking only to the highest welfare of the schools.

The person who is chosen to act as a supervisor of rural schools must himself be a thinker as well as a student, and must be able to incite others to think and study. In the isolation of the country school, the teacher too often has no ideals and consequently no ambition. It is the business of intelligent supervision to suggest these high ideals of work as the end which the teacher must aim to accomplish. Time is often wasted by the supervisor in suggesting new methods to teachers who have no idea that there is any better way than they have been doing since they obtained their first certificate; he might as well whisper the news of the day in the ears of the dead. I would rather have in a teacher one divine spark of originality, lightened up by enthusiasm and zeal in her work, than all the knowledge that is contained in a thousand pages of the dead lore of the past. The supervision needed in the rural school is one which inspires energy, enthusiasm, and zeal; which awakens a desire to know the best; which says, "come, let us study, let us think, let us reason, let us discuss." Such supervision opens the doors and the windows that the light of nature may come in, drives out old traditions, and ushers in the reign of intelligence, knowledge, humanity, and love, which characterize the new education.

The influence of a refined, cultured scholar in the person of the supervisor is not to be lost sight of. Sometimes he is the

only medium through which bright pupils receive an aspiration which awakens a desire to attend a school offering larger advantages. The supervisor has a three-fold function. He examines in order that he may test the possession of knowledge on the part of teacher or pupil; he inspects that he may in a measure ascertain the quality of the work and control or organize the management; he supervises in order that as an adviser and friend he may point out errors and suggest remedies, encourage honest efforts, and welcome signs of improvement in methods of discipline or instruction. The true supervisor is much more than a teacher. It is only by regarding each of these functions that the supervisor may bring his work into accord with that of the teacher and the pupil, and thus unite for a common purpose all the interests of the school.

Formerly the office of supervisor embraced that of examiner of teachers alone. There are many counties even now in which the fitness of the teacher is determined by the per cents recorded against her name. This has led to a great evil, in that it induces teachers to study for marks. They study questions, not subjects, and test themselves by the number they can answer. As a consequence the rural school teacher becomes exceedingly narrow, having little depth of knowledge, or breadth of foundation upon which to build her work. She does not cultivate habits of study or investigation. Only an independent thinker can make an independent teacher. Enthusiasm in presenting knowledge is born of enthusiasm in pursuit of knowledge. The prevailing method of examining teachers, as the only test of fitness for their work, is an exceedingly ingenious device for enabling them to conceal their ignorance.

The need of the school is a supervision which can reach beneath this accumulated mass of rubbish, and judge the qualifications of the teacher not alone for what she knows, but rather by what she can do in the schoolroom. The teacher who has crammed for the examination ought to be detected and rejected as surely as the one who fails to meet the prescribed standard. To give the rural school the needed supervision, the supervisor must know what is the criterion of a good teacher, and the elements of good teaching. He must possess the ability to select the teachers whom he commissions not only in accordance with the results of the examination, but having regard to breadth of knowledge as evinced even in the answers to technical questions. He must be guided not alone by a system of percentages,

but by her evident ability to stamp the impress of her character upon her school. He must endeavor to determine the question, "What will be the influence of this teacher over the pupils, and in the community at large?"

The supervision of rural schools should be made to include the duty of awakening public concern, and of strengthening the entire tone and trend of thought as it is directed towards the promotion of educational interests. This is a new field for supervision, and one in which it ought to achieve most beneficent results. The supervisor of rural schools should be acquainted with the material resources of his district. He should not only know what constitutes good farming, the grazing interests, the dairy, the rotation of crops; but the prevailing industry of that region should be so familiar to him that he can converse intelligently with the inhabitants and convince them that he knows something besides books. The object is not alone to gain an influence over them but to bring the school into touch with the home life of the community about it. For this reason the supervisor should make himself well acquainted with the prevailing conditions of the wage-earners of his territory, in order that the instruction of their children may commend itself to them as sensible and as calculated to meet their present and prospective wants. New thoughts, better methods, live matter, and stronger incentives must come to the country school through the efforts of rational supervision. The dawn of a new education for these schools will break over the horizon as soon as we can bring to the aid of the teacher the light of science and the knowledge of common things.

The teacher must have great latitude; she must be herself a lover of nature in its various forms, and be able to interpret the language of rocks and trees, and flowers; the running brook, the snows of winter, and the fruits of autumn. The wise and intelligent supervisor aids and encourages her and her pupils and commends her work in these new lines as he does that included in the regular school curriculum.

The supervision needed by the country school must concern itself also with school extension, lectures, and libraries. The county associations must be supplemented by meetings of the directors and parents for consultation and advice. In these the supervisor must be the moving spirit. The isolation of the country school can be broken up through the influence of these meetings. The establishment and maintenance of good roads

must find in the supervisor a ready and popular advocate. Under the stimulus of his influence the rural school grounds should be made attractive and the school buildings neat and convenient. There are instances on record in which the work of one man has changed the educational aspect of a county, but he had first to gain the confidence of the people, and they responded by electing and re-electing him for a long series of terms.

The supervision needed by the rural schools must be intelligent and rational. It must abound in commonsense, be able to adapt itself to circumstances, be strong, manly, and vigorous, so that the character of the supervision shall commend the wisdom of the supervisor. There must be added also an element of permanence in office, so that the supervisor may feel that he has time in which to work out his plans, and to demonstrate the wisdom of his plans. The term of office should in no case be less than four years. The supervisor must be kept in the field every day of the school year, when it is possible. He should have all the clerical help he needs, but the worst use that can be made of him is to keep him in the seclusion of his office, at work over papers and reports. The vacations should not be entirely free from field work, for then he should be with the people and school officers, looking after school grounds, advising the directors or trustees in regard to the repair and improvement of buildings, or the erection of new ones, consulting with them as to the choice of teachers, the text-books most suitable for their schools, and the general educational interests of the district.

The supervision which I have attempted to mark out is that of a live, enthusiastic man in sympathy with educational progress, in touch with the common people, consecrated to his work, who thinks no sacrifice too great, no labor too severe, when made in the cause of the common district school.

THE ONE THING NEEDED IN OUR SCHOOLS.

The educational spirit of our people is most excellent. They pay their school taxes, which are sometimes heavy, with but little grumbling. Still we hesitate to provide any additional means for training teachers for their work. In our schools

to-day are nearly 4,000 teachers with no experience; 4,000 more are there with an experience less than one year, 15,000 applicants fail to obtain anything higher than a second grade certificate, and still we hesitate.

Illinois has four state normals, Wisconsin seven, Minnesota four, Missouri four, Iowa one; and still we hesitate. In each of the four biennial reports which I have had the honor to submit, I have called attention to this matter. Every other incumbent of this office has done the same. The people of Iowa are ready for it; the teachers of the state demand it. They are ambitious; they are sensible of defects in their methods and in their education; they appreciate the magnitude of their work and ask at your hands additional means for preparing themselves for it.

Of the 550,000 children enrolled in our schools, three-fourths of them are under the care of teachers poorly prepared for their calling. Their demands are the most urgent of all because founded upon justice. The cries of the children compelled to waste the years of their youth under the care of teachers who misunderstand the child, who fail to comprehend the end and aim of education, who have no ideal worthy of being placed before their pupils, are enough to pierce the ears of the deaf or to waken to sensibility the hearts of the dead. If we hesitate to burden ourselves with additional taxes, may we not also hesitate to burden the next generation with an ignorant populace? This question of better preparation of teachers for their work touches the very heart of our educational system. The manufacturer recognizes the principle for which we contend when he employs skilled labor as the most economical. We employ the most skillful doctor to care for our sick, the most competent attorney to plead our case before the court; we look for learned and eloquent ministers to fill our pulpits. More than this, the man is selected to care for a valuable horse who is especially adapted for that work; an architect must give evidence of his ability in that line before we entrust him with the erection of an expensive building. Ought we not to take equal care that the education of our children is committed to those only who have made themselves skillful in their calling? I venture to quote from the report of the rural school committee submitted at the last meeting of the national association. It seems to be applicable to our wants in Iowa:

It is evident that for the fitting preparation of teachers for the rural school some agency is needed intermediate between the brief convention or institute and the normal school, with its two or four-years' course, so far beyond the reach of the majority of rural school teachers. What shall it be?

Several facts must be kept in mind in the solution of the problem: (1) A large proportion of the teachers of rural schools cannot afford the time and expense of a two-years' course in a normal school. (2) The receipts from employment in the rural school under present conditions do not remunerate one for the expense of a normal school course. This is a simple matter of business, and sentiment will not change the facts. (3) Other conditions remaining the same, attendance at a school is in an inverse ratio to the distance between school and home. This is especially true for a short course.

To meet these conditions there is needed a normal training school with a short course of study. The place—a village which will give over its schools to this normal training school for practice schools. These practice schools, organized as primary schools in one room and as grammar schools in another, will show what can be done with schools in the simplest form of gradation. For a part of the course all the grades should be brought together to illustrate the work of the one-teacher school; such work as should be done in the ungraded school. A faculty of five or six good teachers, including practice school teachers, would suffice for such a school.

This the general organization—what the work? Treatment of matter essential to good teaching would be grounded on simple fundamental principles. Deficiencies in education would be supplemented by sound teaching; principles of teaching and of school management would be taught and illustrated. Many might learn to do well what they had never done at all; most would learn to do better what they had done poorly. From these schools would come many students for fuller courses of training and a still wider usefulness.

This plan in its development would give a system of district training schools, analogous to the county model schools of Ontario and the training schools of Quebec and Manitoba, with a course of study and training of one year, the first half of which should be mainly academic, for those who need this preparation, the second half mainly professional, the work so planned that those of more advanced scholarship need take only the course of the second half year.

WASTE IN SCHOOL EXPENSES.

When times are hard and people feel the necessity of economy, the first step, generally, is to reduce the teacher's salary. When that is done the public seem to feel that the school at least is conducted on business principles. It is a glaring example of false economy to save money by curtailing the educational privileges of the children. But aside from this, there is room for

great improvement in the financial management of the school funds. There is a carelessness which in many cases is exceedingly culpable in the manner of keeping accounts and in not being able to show for what the money has been expended. Often the treasurer is ignorant of the first principles of book-keeping, and cannot in any way make an intelligent report. Every treasurer who has the disbursement of school funds should be obliged by the law to take his books at stated times in the year to be audited by the county auditor. The auditing should be an actual close examination of the books. Care should be taken to see that the amounts secured from any source are properly entered and that they have been properly expended or accounted for. When the treasurer settles with the board, as he should do frequently, the board should not only look over his vouchers, but he should be required to produce the cash on hand. The amount lost through dishonesty is very small. Our school officers are generally men of integrity, but there is great need of introducing business ways into the management of school finances. The purchasing of fuel and supplies should be entrusted to one man and when the district is of any considerable size, competent bids should be asked for, and the contract let to the lowest responsible bidder. The district should obtain better prices than any individual purchaser.

It is a desirable qualification of a principal or superintendent that he should know something of business. I do not at all agree with a class of school men who assert that the only business of the teacher is to teach; and the only business of the superintendent is to supervise the teacher. Each teacher ought to be as careful that no supplies are wasted as though she paid for them out of her salary. Every superintendent ought to be so well acquainted with the business affairs of the district as to know what the board can and cannot afford to supply, so that it can depend upon his advice. Sometimes things are very desirable which for the time being are not expedient. In such cases boards and teachers ought to exercise prudence and common sense. We expend in Iowa for our schools \$8,000,000 in round numbers. I am convinced that the state superintendent of Maine is correct when he says: "We do not need to raise more money to maintain public schools of a standard grade, but we need a more intelligent expenditure of the funds used for this purpose."

If not a waste, it comes very near to it, for the board of directors to levy a tax which raises more revenue than the

necessities of the district actually demand. A small balance on hand in each fund may be desirable at the close of the year; it is better than a deficit. But usually the aggregate amount kept on hand by the different treasurers in the state approaches three and a quarter million dollars. This is two million dollars more than is necessary to meet any emergency likely to occur. It benefits the treasurers at the expense of the people who contribute the money. The attention of school officers has been called to the injustice of this, but the amount on hand does not decrease from year to year. If there is no way of reaching this custom through the law, the sense of right and justice ought to compel a board composed of high minded men, not to make the tax levy any higher than the good of the schools demands.

HORACE MANN.

On May 4, 1896, occurred the centennial of the birth of Horace Mann. This department thought it most fitting the day should be remembered and issued the following circular to the schools:

1796.

HORACE MANN.

1896.

MAY 4.

The superintendent of public instruction for Iowa desires to call the attention of the educational public, and of all friends of education, to the fact that this is the centennial year of the birth of Horace Mann. He was born in Massachusetts, May 4, 1796. As a friend of the common schools and as a promoter of popular education, America has not produced his equal. His name is affixed to the report of the commissioners appointed in 1856 to revise the school laws of Iowa. That report was very largely his work, and breathes his spirit in every sentence.

We most earnestly recommend *that the flag be displayed* on May 4th from every schoolhouse that possesses one. It will be a most fitting tribute to his memory from those in whose interests he spent his life. We also ask county superintendents to devote one-half day at the summer institute, to the study of the life, character, and achievements of Horace Mann. This will prove an exercise calculated to inspire teachers with renewed zeal in their work.

The words of this great man are true now as they were when he uttered them:

"In a social and political sense, ours is a free school system. It knows no distinction of rich and poor, of bond and free, or between those, who in the imperfect light of this world, are seeking through different avenues, to reach the gate of Heaven. Without money and without price, it throws open its doors, and spreads the table of its bounty for all the children of the state. Like the sun, it shines not only upon the good, but upon the evil, that they may become good; and, like the rain, its blessings descend not

only upon the just, but upon the unjust, that their injustice may depart from them, and be known no more." Very cordially yours,

HENRY SABIN.

March 10, 1896.

In accordance with the above, most schools displayed the flag and in the larger places appropriate exercises were held. In the exercises of the annual institutes during the following summer the attention of the teachers was called to the value of his work for the common school.

In 1856 Governor Grimes appointed Horace Mann, Amos Dean, then president of the state university, and F. E. Bissell, of Dubuque, a commission to prepare a system of school laws to be presented to the next general assembly. Mr. Bissell, for some reason, was unable to act, and the work devolved upon Mr. Mann and President Dean. The following letter written by the late President Gilchrist, who was then at the head of our state normal, throws much light upon the subject of Mr. Mann's influence in preparing the school law.

IOWA STATE NORMAL SCHOOL, }
CEDAR FALLS, May 21, 1884. }

EDITOR OF REGISTER—I have just read in this morning's Register the article, "Horace Mann; the extent of his influence upon the public school system of Iowa," and I cannot resist the temptation to make known a reminiscence of my own connected with this subject. It was while I was a student at Antioch college, of which, as you well know, Mr. Mann was president, that the commission came to him to prepare a system of school laws for Iowa. He felt very much honored. I had occasion to call on him at his study and found him busy writing. The business on which I called was soon settled, and he remarked in substance as follows: "I am engaged to-day in preparing a report to the legislature of Iowa and formulating a body of school laws for that new western state, having been invited to do so by the proper authorities. I take great pleasure in preparing this report, for I am back again at my old work of laboring for the common schools. This grand, new state will not have any of the prejudices and old habits to contend against as Massachusetts had."

At a reception of the students given by him a few days later, he was conversing with a group of young men on political questions, in those days so exciting, and to give point to some remark, he showed us a letter from Charles Sumner, then in Paris, seeking medical aid for his restoration to health after the blows inflicted by Brooks in the senate chamber. "Ah," said he, "but for the mass of thick, curly hair that Sumner wears, Brooks would have been a murderer." Then turning to his desk and taking up a few sheets of paper, he said: "This is what we are doing for Iowa. Young men, those of you who may live thirty years will see that state the greatest in the union, because she is beginning in the right way, laying broad plans for the education of the masses." We then inquired about the features of the system he was submitting, and I well remember the emphasis he gave

to the following: The township as the unit in school administration, teachers' institutes, the county superintendency and normal schools. Being the founder of normal schools in Massachusetts and in the United States, he could not overlook a provision for them in his report.

I cannot take time to make any reflections. Great as Iowa is, would she not have been greater had she adopted the system complete as reported by this man, at that time the most eminent in the country for educational statesmanship? But, then, the people—systems cannot go faster than the people go. Iowa was not ready then for this perfected system, and is hardly ready now. To prepare for an Iowa thirty years in the future, greater and nobler than she is now, you must lay the foundations to-day in the minds and hearts of the children.

Very truly yours,

J. C. GILCHRIST.

Three things conspired to render Horace Mann immortal; his indomitable will, his great intellect, and his yet greater heart, every throb-beat of which was in sympathy with the great heart of humanity about him. Born, like Abraham Lincoln, of the common people, cradled in poverty, and nursed by toil, like him Horace Mann made the adverse circumstances of his youth steppingstones by means of which he reached at length

"God's plan—
And measure of a stalwart man."

He is the one grand central figure in the group of educational reformers of his day; the one great commoner, who, with unfaltering heart and sublime courage lifted up the banner of the common school, and gave fresh life and new meaning to the democratic doctrine of popular education. With the tenderest hopes for humanity in its lowliest guise, with fullest sympathy for the oppressed and the ignorant, with unfaltering faith in the wisdom, the justice and the love of God, Horace Mann consecrated himself, mind, soul and body, to his chosen work. No labors wearied him, no dangers appalled him, he counted no details as too tiresome. Nothing stood between him and life in the humblest cabin in the state. No pride of place, or wealth, or power, separated him from his race. The universal fatherhood of God and the universal brotherhood of man were linked inseparably in his mind. It is in vain the nation builds a monument to such a man. The brass corrodes, the marble crumbles, the canvas fades. But he, who like Horace Mann, builds his life into the lives of the people, shall be like the cedars upon Lebanon which abide forever,

"Stately and tempest worn,
To show how nature triumphs over time."

Horace Mann was distinctly an American. He believed in

American institutions, in American schools, and in having the children in the public schools become worthy American citizens.

We talk of enriching our courses of study. Every year sees another straw added to the load of the patient, overburdened camel. When his back will break is only a question of time. I may stand alone in this opinion, but I speak the convictions of my heart when I say that the tendency to overload and crowd the intellect of the child at the expense of his moral and physical nature is criminal in the extreme, and must result disastrously in the end.

Horace Mann says: "I find that for one man who has been ruined for want of intellect or attainments, hundreds have perished for want of morals. And yet with this disproportion between the causes of human ruin, we go on bestowing at least a hundred times more care and pains and cost in the education of the intellect than in the cultivation of the moral sentiments and in the establishment of moral principles." The course of study in the schools needs enriching on the side of the heart rather than the head. It should be enriched with great thoughts and noble sentiments drawn from the wisdom of past ages. More than this, it should be enriched by the cultivation of those everlasting principles of right, justice, honor, truth, which are the foundation of the American state, and in the inculcation of which lies the only sure safeguard of our American homes.

COMMITTEE ON RURAL SCHOOLS.

In 1896 the educational council under the auspices of the national educational association made the first attempt which has been made in this country to investigate the conditions of the rural schools, and to devise ways and means for their improvement. A committee of twelve was appointed of which the superintendent of public instruction for Iowa was made chairman. Two years were occupied in the work, and the report of the committee consisting of a volume of 228 pages was submitted at the meeting of the association at Milwaukee in July, 1897. Already Michigan has taken steps to place a copy of this report in every school district in that state. The school commissioner of Georgia incorporated the entire report in his last report to the legislature. New York has taken steps looking to publishing an edition of several thousand copies for the use of school officers.

I have incorporated in the appendix to this report the conclusions reached by the different subcommittees. They embody the results of careful research and investigation on the part of men who have for years taken an interest in the subject. These conclusions embrace more even than that, for they were reached after correspondence and consultation with county superintendents and men who have had practical experience in teaching rural schools.

While it is not probable that this report will afford a complete solution of the rural school problem, it is regarded as a long step in that direction. It is also a noticeable fact that at the late meeting of the national association at Milwaukee, for the first time in its history, one entire morning was devoted to the discussion of the country schools. If the finances of the state would permit, Iowa ought to follow the example of other states and print an edition of this report sufficient at least to supply one for every district. I have no hesitation in saying that I believe it would prove a wise expenditure of public money.

THE RURAL SCHOOL AND THE FARM.

There is in process of evolution a distinct plan to render the country school more useful by bringing it into closer touch with the life which surrounds it. It has reached a much more advanced stage in other countries than in our own, but it is attracting more attention with us as the necessity of it becomes apparent. The French minister of public instruction says:

A teacher should never forget that the best way to make a workman love his work is to make him understand it. The end to be attained by elementary instruction in agriculture is to give the greatest number of children in rural districts the knowledge indispensable for reading a book on modern agriculture, or attending an agricultural meeting with profit; to inspire them with the love of country life and the desire not to change it for the city or manufactories, and to inculcate the truth that the agricultural profession, the most independent of all, is more remunerative than many others for industrious, intelligent, and well-instructed followers.

It is not necessary to make the pursuit of agriculture more honorable. Nothing can do that. The tiller of the soil is king among laborers. Something, however, can be done to make the farm as attractive as the city and so keep the boy contentedly at home. He can be convinced that the avenues to prefer-

ment, to position, or wealth, lead out from the farm as well as from the store or the office.

The men in active life to-day who remember their childhood with the greatest pleasure, are those who, when boys, were brought into closest contact with nature. They can recall every foot of the old farm, the brook from which they caught the finest trout, the names of the birds which sang in the woods, and the windings of the old road which led to the village or the schoolhouse. A majority of the men who are to-day leaders in the political world, men eminent for their literary culture, for their scientific attainments, for their success in business, are the product of farm life. The very fact that they had the chores to do morning and night, that their help in the field was required when work was pressing, that their efforts ministered in some degree to the happiness and welfare of the family, gave them a solidity and manliness of character which has served them in the arduous toils and struggles of a long life.

We cannot afford to forget or discard the influence which the boys and girls from the farm will exert in future years. Besides, we must take into account the changing conditions of farm life. The introduction of machinery as an aid to the labors of the husbandman calls for skilled labor. Once the farmhand, who could swing the scythe or handle the hoe, was in demand. Now, to secure the highest wages, he must understand something of the complicated machinery of the reaper, the mower, the self-binder, the cultivator, or the gangplow. The butter is no longer made in the farmhouse kitchen, but at the creamery. It is necessary for the farmer to know what breed of cattle will prove most profitable, and how to feed them so as to obtain the best results. One of the largest farmers in the state a year or two ago sold off nearly all his stock in the early fall at a large discount because of the failure of crops occasioned by the drought. He afterwards said to me that he could have wintered every animal he sold if he had known how to utilize that which he had been accustomed to throw away as refuse. To know how to utilize the waste is to add just so much to the profits of the farm.

There are two questions of paramount interest—how to make the knowledge obtained at school of use on the farm, and how to make farm life an incentive to more earnest work on the part of the pupils in school. Bookkeeping, as applied to farm accounts, should be taught. The small margins that are saved

constitute the great sum of profits in every business. The study of form and elementary geometry and surveying so that he may run a line, would be very useful to the farmer's boy. The study of plants, the selection of seeds, some knowledge of soils, the cultivation of all kinds of fruits, especially those which will best grow in that section of the state, how to make good roads, the care and scientific feeding of animals, are but few of the many subjects which ought to be made more prominent in the rural school curriculum. The time is at hand when the farmer must open up new sources of revenue. It will not do for him much longer to depend upon corn or wheat alone. Dairying, the raising of poultry for the market, the cultivation of small fruits, how to get the best possible results from the cultivation of an acre of ground, are forging their way to the front very rapidly. The school which conduces most to benefiting the farm is best for a rural community. The product of the country school should be the intelligent, expert farmer. We must remove from agricultural pursuits the stigma that it requires less intelligence to manage a farm of 160 acres than it does to keep a corner grocery.

With the introduction of good roads, and a system of daily mail delivery at the door of every house, the old-time isolation which has made farm life so undesirable will cease to exist. There will then be greater opportunities for lectures and for home study. The experimental agricultural station, at Cornell university, in New York, has entered upon a work which is worthy our imitation. They term it "extension work in rural schools." Their plan is to send out free for the use of teachers and schools, as well as for other persons interested, bulletins bearing directly upon agricultural work. At the same time lecturers visit the rural schools for the purpose of interesting and instructing teachers and pupils. The following extracts are from an article by Prof. L. H. Bailey, of Ithaca, New York:

The plan of effort in this teaching was to visit two schools during the day, one in the forenoon and one in the afternoon. The arrangements were made in advance with the school commissioner or the trustees, and the fact that the speakers were to be at the schoolhouse was ordinarily announced some days in advance, so that parents and friends could visit the school at that time if they chose. The teacher was in every case willing to omit the regular exercises for an hour or two, in order that our instructors might take up the work of object teaching with the children. The motive in this work was to find out just how the pupils could be reached by means of

object-lesson teaching, and just how much interest they would be likely to manifest in agricultural matters in case it were ever found to be desirable to introduce such teaching as a part of the district school work. The instructor would first explain the reason for his coming, and give the school to understand that no new text-books were for sale and that no new classes were to be required at the hands of the teacher. He then ordinarily took up some simple object lesson. It might be, in one place, a stalk of corn which he had in his hand, and the process of growth of which he would explain from seed to harvest; it might be, in another case, the germination of a bean or a pumpkin seed; it might be, in another case, the habits or structure of a potato bug or some other insect; it might be, again, the reasons why there were knots and knot holes in the woodwork in the schoolhouse; it might be a very elementary talk upon the different plant foods which are in the soil; it might be, in other cases, a very brief sketch, with charts, of some fungus; and so on. These exercises were uniformly well received by both the pupils and the teachers, and this work has, I think, awakened more inspiration in the minds of our instructors than any other attempt which we have yet made to reach the people. The teachers in the schools have without exception expressed themselves as willing and desirous of taking up some such simple exercises as a rest for the pupils two or three times a week, if only they themselves could be instructed in the proper methods of carrying on the work. In order to afford this instruction to the teachers, we are now proposing to issue a series of experimental leaflets on object lessons and place these in the hands of the teachers.

There is no doubt of the necessity for work of this kind with the children. The love or antipathy of the farm is engendered at a very early age in the minds of the young. This has been demonstrated in these October meetings, when we have asked those children who live on farms and who still desire to do so to raise their hands, and we almost uniformly find that the number who desire to live on farms is far less than those who actually do live on them. With these children, ranging from six to fifteen years of age, the question of pecuniary profits upon the farm has appealed very little, but they are influenced directly by the environments under which they are living. These environments must be improved; and, if they are, there is every reason to expect that children will love the country better than the city. We have thought, therefore, that it is eminently worth the while to instill the love of nature and the knowledge of a multitude of living things in the minds of the children.

The resources of Iowa are and must continue to be, to a large extent, agricultural in their nature. Whatever adds to the productiveness of the farm increases the wealth of the state; whatever adds to the intelligence of the farmer's family adds to the intelligence of the state. This subject is of such vast importance, as affecting the whole future welfare of the nation, that the committee on rural schools, which reported at the last meeting of the national educational association, at Milwaukee, committed it to a special committee. The results of the investigations of that committee will be found as an appendix to this report.

TRANSPORTATION OF CHILDREN TO SCHOOL.

A number of states have made definite legal provisions for carrying children to school at public expense, under certain conditions. In general these laws provide that when a school has become so reduced in numbers that the expense per capita is too great, it may be closed and the children carried, without charge, to such school as the board may designate. Thus two or three small schools may be gathered into one of good size, and a competent teacher provided at a fair salary, instead of two or three incompetent ones at a low salary, thus affording better instruction for the children at a very considerable saving to the taxpayers.

Section 2774 of the revised code makes provision that when the board is released from its obligations to maintain a school, or when children live at considerable distance from their own school, the board may contract for their instruction with boards of other districts and pay the tuition out of the teachers' fund. It also provides that whenever it will be a saving of expense and the children can secure better advantages thereby, the board may arrange with any person outside the board to convey the children to and from school in the same or in another corporation and pay for the same out of the contingent fund. There are many counties in Iowa in which the boards can take advantage of these provisions of the law with great benefit to the schools.

In many districts good schools are absolutely impossible on account of the conditions. With less than ten pupils on the roll, with irregular attendance on the part of the pupils, and with two or three different teachers in one year, the progress of the pupils in their studies is slow and uncertain. The only way in which to improve these conditions is by consolidating the schools.

The American people have not yet reached that degree of civilization which enables them to spend public money wisely and so as to get permanent results. If nine schools are maintained where six would answer a better purpose, the money expended upon the three extra schools is wasted. Nine teachers are poorly paid where six better teachers could be employed at more remunerative salaries and still save money in each of the three funds. So there is a waste if the children in small schools are gathered in groups of eight or ten with a teacher to pay and supplies to be purchased for each school, when under

the law at a comparatively small expense they can be carried to a well conducted graded school centrally located.

This matter was very thoroughly investigated by the committee on rural schools. I have incorporated its conclusions in the appendix to this report. It will bear careful study by those who are interested on the economical side, or in having better schools at less expense.

KINDERGARTENS.

The kindergarten has not yet taken the place in our schools which its importance demands. It is a matter of record made after careful study of results that in the cities the kindergarten children do better in entering schools than those who have not received such training. Work is the true spirit of the kindergarten room; idleness and listlessness have no encouragement there. Self activity is the keynote to every exercise. Unless the kindergarten prepares the child for the more formal tasks of the schoolroom, it must be counted a failure. It cannot be denied that in many cases the kindergarten has departed very far from the spirit of its great founder. Especially is this true of that class of kindergarten teachers who wander in "the vagaries of a frivolous and fanciful symbolism" which has no tangible meaning and bears no fruit worth gathering.

Froebel says that "the province of the kindergarten is to prepare children for citizenship here and hereafter." As such it ought to be a part of the public school system in every city and town. It has gained headway and is fairly established in several places in Iowa. I look for a rapid spread of the kindergarten as its spirit and usefulness becomes better known to our people.

It deserves more attention from our leading educators than it receives. I would not in the least disparage the worth of the high school or the college, but I look upon the kindergarten conducted in accordance with the spirit and the philosophy of Froebel as of more importance than either of them.

It may be truthfully said, however, that the kindergarten spirit has changed very largely the teaching of the primary room in all parts of the state. The teacher who breathes the

kindergarten atmosphere takes to her school patience, endurance, love, reverence for childhood, and that earnest spirit which recognizes in nature the common mother of all, ready to give good things to those who ask them of her. The moral side of the kindergarten has also changed the discipline of the primary grade. There is no longer a reign of fear from which the child shrinks. The teacher is no longer a terror with whip in hand to punish the least infraction of her rules. There are sunshine, pictures and flowers to attract and to cultivate the child's love of the beautiful. Music lends its charms, and the very games which the children play are made to convey lessons of good behavior, and of just dealing one with another. There is not a primary teacher in the state who would not be benefited by knowing more of the kindergarten school. There are high school teachers whose usefulness would be increased if they had a more intimate acquaintance with the kindergarten spirit. The late George Howland, for over thirty years connected with the schools of Chicago, thus defines the New Education:

We believe in the New Education for the spirit of humanity underlying it, overlying it, inspiring it, which makes the child its subject, its untiring study, its ceaseless hope; for its truer appreciation of the child-nature in its restless eagerness, its longings and its ceaseless strivings to acquaint itself with its powers, its capabilities, and its surroundings. We believe in it especially for the better understanding of things and their names, its nicer observation of qualities, and forms its clearer conception of ideas, and its finer expression of thought.

CHILD STUDY.

There are two distinct phases of this subject before the educational public at the present time. On the scientific side eminent men are making a careful study of the child's mind with a view of ascertaining the most rational methods of presenting subjects and of imparting knowledge. They are also investigating the relations between the mind and the body so as to prevent injury to either by the process of education. In this aspect child study concerns itself with the entire child in his three-fold nature of body, brain, and heart; the physical, the intellectual, the moral.

The other phase of child study is more practical and deserves the attention of those teachers whose daily work is in the

kindergarten and the primary room. It consists in adapting the work of the school, as far as may be consistent with the general good, to the nature of each individual child. If he has physical defects of any kind, allowance must be made for them, and his position in the school must be such that this defect of sight or hearing may be as little hindrance as possible to his progress in his studies. If nature has made him dull in one branch and quick in another, he should not be blamed for his dullness nor over praised for his quickness. Not what the child accomplishes, but what he earnestly attempts to accomplish, should be the measure of censure or praise. Cleanliness of person, orderly habits, polite behavior, ready obedience, a regard for the rights of schoolmates, are brought to the notice of the children so as to offend none of the unfortunate ones whose home life neglects these things, but rather to attract them to attempt for themselves the beginning of a more humane life at home as well as at school.

Child study has a very interesting side also in the attempt which it encourages to bring the school to the notice of the parents. The teacher who has the child study spirit takes every opportunity to cultivate an acquaintance, especially with the mothers of the children, for mutual advice as to what course it is best to pursue so that the child may be benefited by attendance upon the school. Child study seeks the co-operation of the home. This is its strongest characteristic on its practical side, and commends it, not as a fad, but as a means of an intelligent understanding of the needs of the child and the best way of meeting them.

GRADED SCHOOLS.

There is no question that the schools in our towns and cities rank well with those of similar grade in other states. Many of the teachers are graduates of normal schools and colleges and are well fitted for their work. Principals and superintendents are men and women thoroughly devoted to the interests of the schools, and enthusiastic students of educational progress. We are, however, confronted with some very serious questions which it behooves us to treat with careful consideration. The iconoclast has a task different from that of the architect, since it is easier

to pull down than to build up. The destroyer and the creator have different missions in the world. Experience is a safer guide than theory in educational affairs. The landmarks which our fathers established were the result of careful thought and study by the men who founded the republic. Any departure from them should be made with great caution, and only after due deliberation. Still it is true that the education which the common school afforded a generation ago, would not suffice for the present times. Customs and manners change, and the school must change with them. Knowledge is greatly multiplied and increased; life has taken on an intensity of meaning and the ends of the world are brought together. The school must adapt itself to this new order of things. The tendency to crowd high school studies back into the grammar grades, and grammar school studies into intermediate grades should not be encouraged. The object is not to make room for new studies, but to teach with understanding those already in the course. United States history does not receive the attention which its importance deserves. It should be introduced earlier in the course and some knowledge of general history should be taught with it. The ability to write and speak the English language in accordance with the best usage is of great importance. When the child leaves school he should possess the art of expressing himself concisely, clearly, and intelligently, so that he may not be misunderstood. He should be able to write a letter or an article for the press, which, for orthography, penmanship, and expression of his wants or ideas is above criticism. He should have an acquaintance with the best literature of the language, with a taste for reading and investigation in his leisure hours. The arithmetic of the school can be abridged in some subjects, but the place of that portion rejected must be filled with other and more practical matter. The study of form and elementary geometry should not be too long deferred. Mensuration, the computation of areas and distances, the bushels of corn or wheat which a given receptacle will hold, as much of commercial arithmetic as will make him comprehend more easily the actual problems of business when he is called to face them. These are some of those things which should be emphasized more than they are in teaching this subject. Additional pains should be taken to secure rapidity of computation, and correctness of results. Every new method in arithmetic should be carefully questioned as to the probability of its power to bring us farther on in our

endeavors to reduce the time spent upon this subject and to produce better results.

The pupil should be encouraged to independent analysis, to use his own processes, but he should be held responsible for his conclusions. It is very helpful that he be allowed to conquer difficulties in his own way, if he can do it intelligently and absolutely. On the other hand it is equally harmful to furnish him stilts, that he may make rapid progress, or to provide for him a crutch when he comes to difficult places. To throw out in the primary grades "the hences," "the whences" and "the therefores" in simple computations would undoubtedly increase the clearness of the child's comprehension. The simple reasoning of the child goes to the result with a directness from which the teacher may learn a lesson. What is the use of hedging his way up by a wordy analysis which becomes in the end a mere act of memory and nothing beyond that?

The reading in the schools is receiving much attention, and I believe with good results. The efforts of conscientious teachers to cultivate in the child a taste for the best reading is commendatory. It forms a strong safeguard against the pernicious influence of the vile and trashy literature which so abounds in American society. It is questionable, however, whether we are making good oral readers of the children in our schools. I believe that a return to the old-fashioned drill in pronunciation, enunciation, inflection and emphasis, would conduce to giving more power to the person when called upon, as every one sometimes is, to read in public, or in the family circle. The ability to read aloud, so as to be a source of pleasure to the hearers, is a most desirable accomplishment.

Promotion of individuals in the grades should be governed by the interest of the scholar. Above all things it should not be governed by an arbitrary standard of reaching a certain per cent in his studies.

The course of study is the measuring rod or scale which is used to determine at what point in the eight years' work in the elementary course a pupil's work has arrived. It should not be used as the Procrustean bed on which to stretch the work of the school in order to give uniformity. (Report of Subcommittee on Instruction and Discipline, Committee of Twelve on Rural Schools.)

Seventy-five per cent in arithmetic may mean as much to one pupil as ninety-five to another, all he can ever get out of it, and he should be allowed to go on and get what growth he can

from the studies of the next higher grade. A rigid adherence to a fixed, unvarying rule for promotion, has driven more large boys out of school than any other assignable cause.

I am not yet willing to class music and drawing as fads, or as expensive luxuries. If we cannot afford them in every grade, then cut them out of the high school, but let the children whose education must close far below that, have the full benefit of their humanizing, civilizing influence. It is not only knowledge which the people need, but the general culture which comes from the presence of "the true, the good, and the beautiful." Reading, writing, and arithmetic alone fall far below the standard of education needed by a free people. The esthetical side of the child's nature must not be neglected if we expect that the American school will realize the purposes for which it was founded. Let our children be taught to sing, for often the songs of the people have proved to be a powerful factor in forming the character of the state.

Drawing should be so taught as to have a direct bearing upon industrial education. Whatever enables the eye to see the lines of beauty even in the most common things of life, or enables the hand to trace upon paper the conceptions of the brain in works of art, has its utility no less than the multiplication table or the list of irregular verbs.

Civics must also, in some form, have a place in our schools. A knowledge of the duties of various offices, the method of conducting elections, above all the sacredness of the elective franchise, and the obligations of the individual voter to cast his ballot in strict compliance with the dictates of reason and patriotism, must be impressed continually upon the children in our elementary schools, if we expect to purify politics at the fountain head.

The problem of the American school is extremely complex from the fact that we must educate the child so that he may be fitted for every sphere of usefulness to which the republic calls him. A late writer in the Atlantic expresses it in these words:

The democratic school must teach the children that democratic nobility calls for fidelity to all forms of duty which demand courage, self-denial, and zeal, and loyal devotion to the democratic ideals of freedom, serviceableness, unity, toleration, public justice and public joyfulness.

HIGH SCHOOLS.

Less than 94 per cent of the pupils who enter the public school remain to finish the eighth year. The great proportion of them leave school before the close of the seventh year to enter the office or the store, or to learn a trade. Of those who graduate from the high school, but a small per cent enter the college. It is evident, then, that it is not the object of the grammar school to fit the pupils for the high school, nor is it the object of the high school to fit a few for college. It may well be asked, then, by what line of reasoning can we justify the maintenance of the high school at the public expense? I answer, by the same process through which we justify the whole scheme of public education—the welfare of the state. The state cannot afford to do anything which will lower the general average of intelligence among the people. Abolish the college and university, and the average of intelligence will rest below the high school. Abolish the high school, and the average will fall below the requirements of the eighth, or even the seventh, grade. This leveling down process is not in accordance with our American ideas, and thwarts the purposes for which the schools were established. The fact that the high schools help to diffuse knowledge among the masses goes far towards establishing their claim for existence at the public expense.

A stronger argument lies in the nature of democratic institutions. It is not enough that all men are equal before the law. Within the limits of the law every man must be permitted to pursue happiness in his own way, and to make the most he can of himself as God has given him abilities. To deprive him or his children of these privileges would result in arraying caste against caste, class against class, and condition against condition. This is dangerous to liberty in a republic. The road must be kept open whereby the child of the man who works for his daily bread can realize the possibilities which are before him. The progress of the child in the elements of a wider knowledge has often opened the eyes of parents to the poverty of their own lives, and brought them to a determination that their children shall not be deprived of their rightful portion of the intellectual wealth of the age. “The property of the state must educate the children of the state,” and it must afford the same privileges to all alike. It may be possible that we do not get the best attainable results from public school education, but

that is as true of the primary room as of the high school, and does not weaken the argument that "the fundamental object of democratic education is to lift the whole population to a higher plane of intelligence, conduct and happiness." Yonder granite monument may crumble into dust; this massive capitol may fall in ruins; the nation may be blotted from among the nations of the earth; but whatever we do to enable the child of the humblest citizen to make the most of himself, and thus be of the greatest use to his race, will remain a witness of the wisdom, the patriotism and the justice of our generation.

The provisions of the new code place the high school more directly than before under the care of the superintendent of public instruction. There should be, to make this provision effective, an inspector to visit these high schools, and pass upon their courses of study, their methods, and their facilities for doing the work of secondary schools. Many high schools are attempting too much; their courses are crowded with studies, and the instructors while exerting all their powers, are conscious of not doing good work. It is also true that pupils are sometimes allowed to take branches which they have not maturity of mind to comprehend. In such cases they obtain neither knowledge nor discipline. Occasionally an ambitious scholar is allowed to take so many branches at once that his entire time at home is taken up in preparation for recitation and he has no opportunity to gain the broader education of the home and of home life, which is even more essential than that gained from books.

The high school in every community is about what the people demand. Very often teachers are alive to the evils I have enumerated but are powerless to help themselves in the face of public opinion. There can be no remedy for these things until the people come to a full enlightenment of the fact that a knowledge of books alone does not constitute a practical education.

"We are entering upon an era of education, the consummation of which will not be a charity education for the poor, nor a teaching of some rudiments for the many, still less the cultivation in dilettante science and art of a proud few but the opening of a highway to the best and broadest development of character for the all."

The high schools of the state are worth all they cost, but reforms are needed in the directions which I have pointed out. The high school is too expensive where it is maintained at the

cost of poor teachers and poor instruction in the grades below. Whenever that is the case it should be thoroughly renovated.

To what point should the high school curriculum extend ought to be very carefully considered and settled according to the wants of the community and with reference to the ability of the taxpayers to meet the expenses. There is such a thing as attempting too much, an extreme against which boards and superintendents should guard in the interests of good scholarship and true economy.

In all our schools there is too strong a tendency to hold up a false standard of success before the pupils. The things which make for true manhood and true womanhood, which will contribute to the usefulness of the individual as a member of society, are lost sight of in the fierce ambition to obtain the mark necessary for promotion to the next higher class. A good recitation is the best which that pupil can make, and its quality is not affected at all by any arbitrary mark which the teacher may affix to it.

Love for the truth, a spirit of serviceableness, respect for sacred things, regard for the rights of his neighbor, integrity in dealing with his fellows, the cultivation of the conscience, growth of character in the direction of obedience to the precepts of the divine law, these are the weightier matters which the true teacher keeps continually before the pupils. It is very necessary that the next generation should have right ideas of what constitutes success.

NORMAL INSTITUTES.

There is no occasion for dwelling upon the benefits which have accrued to the teachers of the state through the annual normal institute. While in some cases it has failed to accomplish all that it was originally intended to accomplish, nevertheless the results have been such as to fully justify the wisdom of those who framed the law. There are some changes, however, which should be made in the law governing the institute. The power now given the county superintendent to appoint the conductors or instructors should be so limited that he could appoint only those who hold a paper from the state superintendent or the board of examiners certifying to the fitness of

that person for the position he desires in the institute work of the state. Such a provision should be so framed as not to exclude instructors residing in other states, but rather so as to invite the best men and women, those most skillful as teachers of teachers, to work in our institutes, without regard to their residence. An amendment should be framed so as to prevent the plan in vogue in some counties of farming out the institute fund to local teachers as a reward for personal or political services. This would not only put it out of the power of the county superintendent to engage instructors for any other reason than their evident ability, but it would free him from the importunities of those who have not been able to demonstrate their preparation and fitness for institute work.

The money which constitutes the institute fund is, with the exception of \$50 given by the state, drawn entirely from the salaries of the teachers of the county. It ought then to be expended for their benefit alone. The superintendent who uses it to further his own promotion or for personal ends is unworthy his office and does not deserve the respect of the teachers or the community.

I have always contended that it is unfair thus to assess the teachers to support the institute. Common justice would seem to demand that the state should give the teachers' institute \$200 the same as it gives the farmers. At present, however, we must discuss conditions; what we have, not what we would have.

To the question what constitutes a profitable institute, I reply without hesitation, competent instructors. To the question what is a competent instructor worth, I reply, he is worth just what he can command in the educational market. We willingly pay a platform speaker, from \$100 to \$200 for one evening's talk, and no one considers it extravagant. But then he has spent years in preparation for his work and in cultivating those qualities which enable him to entertain an audience. A skillful surgeon will ask a \$500 fee for an operation which occupies possibly two hours, or even less. But he has spent money and time and study in acquiring his skill. When we need a surgeon we always seek the best we can find. A lawyer will take a large retaining fee, and when the case is finished he does not think it exorbitant to ask from \$1,000 to \$5,000 from his client. For exactly the same reasons, a man who has spent his life in studying educational systems, who has made himself at home in the

best methods of instruction, who can bring all his knowledge, his wisdom, the accumulated experience of years to bear upon and interest the class of teachers before him, is worth in Iowa just what his talents can command elsewhere. Iowa teachers are worthy the services of the best instructors in the land, and a wise county superintendent will provide them for his institute as far as his funds will warrant it. My observation convinces me that whenever the teachers in the county fully understand that the institute arrangements are such as to introduce the work of men and women who have something to give worth taking, then they welcome the institute and come willingly to it. On the other hand, when they learn that their instructors are to be those who are in no ways above them in talents or ability, who have no special fitness for their work as instructors, they will then come to the institute if they have to, and not otherwise. It is the institute of cheap workers, from whom they learn nothing, which is a hardship upon the teachers, and not the apparently expensive one from which the teachers go to their schools full of that enthusiasm which comes from contact with instructors alive with the latest educational thought, and rich in their experience as teachers of teachers.

I have repeatedly said to county superintendents that it does not seem right to me to build up a large institute fund to be carried over from year to year, from which those who contribute to it gain no benefit at all. It should be expended in lengthening the institute or in providing a spring institute as is done in many counties for the benefit of those who are to teach in the summer schools. At the same time county superintendents should be held to a very rigid account for the expenditure of this fund. There is no assignable reason why the amount expended for incidentals in many counties should be from one-third to one-half or more of the entire cost of the institute. To sum this all up I am not able to do it in better form than by using the words of one of the most able institute instructors in Iowa:

The teacher is entitled to the best instructors that her money joined to that of her fellows will buy. It is the duty of her county superintendent to go into the market and secure the best talent that the fund provided by her and her fellows will afford. There is no justification for squandering any part of the fund merely because it exists, but there is no occasion for hoarding it, because a good institute, one which is profitable to the teachers and whose good effects reach into the schools of the county, costs money. Some county superintendents of whom the writer has heard have squandered the institute fund, not by employing high priced talent, but by

employing instructors to pay political debts, and foisting instructors upon the institute little better qualified than many of the members. Such help is dear at any price, and if the teachers are to have no other, and may not have the benefit of the best instruction available for the money provided by their fees, the system would better be abandoned.

I have reached the conclusion that the graded normal institute needs reorganizing in the direction of greater freedom of choice on the part of teachers in attendance. There should be, for instance, one instructor skilled in mathematics, whose instructions those who are especially deficient in that branch should be at liberty to attend even to the exclusion of some other study. There should be another whose attainments in nature study, or in the science of common things, would attract those who especially need such instruction. So of history and geography combined, and of didactics or school management. The same work of respecting the individual which we are attempting in our graded schools, may profitably be introduced into the graded institute. This plan would probably do away with the graduation of teachers from the institute. In this respect it would eventually be a benefit, inasmuch as these exercises of graduation give the teachers the fallacious notion that a four years' course of two weeks each year has enabled them to become finished teachers. In the way indicated there would be less temptation to take too many branches, and thus to do very superficial work as is the case in the majority of institutes as now conducted. There would then be no occasion to conduct the institute with sole regard to the examination for certificates at its close, which impairs its influence and destroys its usefulness. The plan has been tried successfully in some institutes, and is worth trying in others. It is to be noted here that the tendency to change from one instructor to another should not be encouraged. The teachers should make their choice carefully and then abide by it.

It is unfortunate that a false idea of the purpose of the normal institute prevails among our teachers. County superintendents are greatly to blame for this. It is unwise in the extreme to coax teachers to attend the institute by promising to renew the certificates of all who are present a certain number of days. The certificate and the institute ought to be essentially divorced. They should not be mentioned in the same connection. The point has been raised that it would be better to abolish the institutes entirely and substitute normal schools with short

courses, in sufficient numbers to meet the wants of all the teachers. Whenever Iowa reaches that position in educational work, the institute in its present form would not be needed as it is now. Nevertheless the time will never come when it will not be necessary to call the teachers of the county together at least once each year for mutual consultation and advice, so that they work as one body for the accomplishment of a common purpose.

There is one other point in connection with the institute which I feel compelled to mention. The institute has come to be regarded as a collection of "school marms" whose interests are entirely separate from those of the community at large. Some way must be contrived to break down the wall of partition and restore the institute to its old-time place in the region in which it is held.

In the beginning the institute embraced the design of making it an educating power in the county. For years it was the nucleus of an educational revival. Not alone teachers, but citizens came up to it, and went home filled with that enthusiasm which is born of new ideas. We must restore the institute to its original purpose. We must bring back the people, the missing element, and above all things, so instruct the teachers, that by their school work, and as they go from house to house in their districts, they may daily inform the people concerning the true purposes and methods of school education.

TOWNSHIP ORGANIZATION.

I desire to re-affirm my belief that the rural independent system is anything but a blessing to Iowa schools. The adoption of the township as the unit of organization would advance the educational interests of the state many fold. An argument can be based on the side of economy which cannot be denied. Add to that the greater efficiency of the schools and the argument is still stronger. Add yet again the equality of school privileges for all the children, and every reasonable man must be convinced that the next great step forward must be the adoption of the township system. Horace Mann states the matter none too strongly when he says:

"The great doctrine which it is desirable to maintain and to carry out in reference to this subject is equality of school privileges for all the children of the town, whether they belong to a poor district or a rich one, a small district or a large one."

INDEX OF REPORTS.

As this is the twenty-eighth biennial report of this department, and the fiftieth year of Iowa's statehood, I have caused an index of the reports of superintendents of public instruction to be compiled and have made it a part of this volume. It will be found very valuable by those in our colleges or normal school who have occasion to refer to the reports, or to anyone who wishes to know the opinion of a former superintendent upon an important point. This custom of indexing the reports should be kept up and made a part of the report as often as every tenth year.

SCHOOL LAWS.

As the laws affecting the schools of the state have been rearranged in the new code and in some essential points changed, it has seemed necessary to print a large edition for the use of school officers. The following are the principal new provisions:

The educational board of examiners will have power to grant a state certificate or a state diploma to a person holding a diploma from a state normal school or a certificate of as high grade from another state. The board of examiners will also have power to issue a state certificate for primary teachers. The law requires that a county superintendent must hold a first class certificate, a state certificate, or a state diploma. County certificates will be separated into classes or grades under the discretion of county superintendents, as formerly. A provision is made for certificates for two years. At all meetings of the voters voting will be by ballot. The probability of deadlocks is lessened by an odd number in many boards. In all independent districts except rural independent school districts the treasurer will be chosen by the electors. Districts having 5,000 or more inhabitants may be divided into precincts for voting purposes. In all districts, contracts with teachers may be made only by the entire board. A majority vote of the board will expel from school. Contingent fund to the amount of \$25 annually for each schoolroom may be used to purchase dictionaries, library books, charts, and apparatus. Boards may contract for the transportation of children to and from school. The board has control of schoolhouses, subject to direction from the voters. Attendance in school townships is not governed necessarily by subdistrict lines, but the board determines the school that children shall attend. The course of study in graded or union schools must be approved by the superintendent of public instruction. The provisions for changes in boundaries and the restoration of territory are much simplified. In hearing appeals, witnesses may be subpoenaed, and provision is made by which the expenses will be

paid. The costs must be entered up against those taking the appeal, if brought without reasonable cause, or if the appeal is not sustained.

It is hoped that no attempt will be made to change these laws by the Twenty-seventh General Assembly. They have as yet had no trial and no one is able from actual experience to point out defects or to suggest amendments. In fact one great evil connected with the old edition of school laws was found in the constant tendency to amend and patch it, by every succeeding legislature until it was almost impossible to interpret it. In my opinion it would accrue to the advantage of the schools if these laws could be allowed to remain as they are until the lapse of several years may suggest some radical changes. These new provisions are all in the line of progress, and I cannot but believe that they will prove of great benefit to the educational public throughout the state. There should be some provision whereby the teachers of the state and the public at large can get copies of the school law for their information. At present this department is required to furnish copies to each county superintendent in sufficient numbers to supply the school officers of his county, but there is no provision for selling them to others who may need them for use or instruction.

ACKNOWLEDGMENTS.

More than my thanks, my gratitude is due to my deputy, Hon. Ira C. Kling. Fifteen years' service in this office has given him a knowledge of the school laws unsurpassed by any man in Iowa. He has an intimate acquaintance with the history of education as related to the gradual development of our school system, which has been of great service to me in the discharge of my duties. For purity of design and honesty of purpose, his official record is without spot or blemish. In the revision of the school law he was often in consultation with the committees and was mainly instrumental in securing some of the most important changes. The published edition of the laws, the preparation of the notes, and the making of the index, are due to his skill and labor. He has been to me a wise adviser, an able, loyal assistant, and a faithful friend. Our official relations are soon to end, but a friendship too sacred for public mention will remain while life lasts.

I have had during the last four years for my secretary, Miss Lilian G. Goodwin, of Clinton. She has performed her duties to my entire satisfaction. Not only has she acted as my secretary, but her labors have partly been as a general clerk in the office. In addition to that, she has acted as secretary of the board of examiners, taking entire charge of the fees and keeping track of a large and increasing correspondence. Her methodical arrangement of papers and her knowledge of the applicants has materially lightened the labors of the examiners. For her faithful labors and for her self-sacrificing devotion to the duties of the office she deserves this public commendation.

The teachers of Iowa have been my enthusiastic friends, far beyond my deserts. I can only thank them in words. They can never know what a tower of strength it has been to me to realize that I was firm in their confidence and respect. Like the shadow of a great rock in the burning desert, like the living spring to the thirsty soul, so have I again and yet again found rest and strength in the love and support of those with whom I have been called to labor in the great cause of public education. Words are too poor, human speech too barren, to pay the tribute of affection and regard which I feel is due to you, my fellow teachers of Iowa.

“May the peace of God which passeth all understanding abide with you forever.”

Let me not forget to thank the people of Iowa. Wherever I have been in their midst they have given me a royal welcome. They have appreciated my labors for the welfare of their children, and we have rejoiced together in every token of good things, in the future, for the public schools.

If I could reach the ears of every father and mother in the state I would plead with them to devise yet better things for the children. Put lands and stocks and bonds in one scale, and a little child in the other outweighs them all. If we could only break away from these temporary, transitory things, and realize what is the best education for the child in the light of his citizenship in a great nation, and in the light of his immortality, how differently we should plan, how differently we should act.

[The following pages were received too late for insertion in its proper place. It is too important to be omitted, and we therefore insert it here.]

DENOMINATIONAL COLLEGES.

Because this is the semi-centennial year of Iowa's existence as a state, I have desired to give as full a history of her educational progress as possible. This could not be considered in any sense complete without mention of the work done by those institutions which are not under direct state control.

These colleges controlled by religious denominations exert a wholesome influence over the schools in the community in which each is situated. The young people go to them for instruction. There they come in contact with scholarly, cultured men and women, and take to their homes and their schools a spirit of growth and progress which permeates the entire region. It adds to their usefulness that these colleges do not hold themselves aloof from the public school interests, but we are always sure of their attention and their influence in any plan looking to promoting the cause of popular education. The following paper was prepared by Dr. W. F. King, of Cornell college, and is given me for publication at my earnest request:

HISTORY OF IOWA COLLEGES.

The difficult task has been assigned to me of preparing, in a very short time, a brief paper on a very large subject.

Fifty years ago our beautiful Iowa was overrun by herds of wild game and warring tribes of Indians. Many of our citizens have witnessed the change from that wild and barbarous condition to the higher civilization of to-day. The conditions were at hand for great and rapid changes. Two sides of the state were flanked by navigable rivers tempting to commerce, the virgin soil unobstructed by forests invited the modern plow and reaper, and the railroad which has usually followed the pioneer and sought out the cities, here became itself a leader of pioneers and a projector of new cities. But the chief factor in this transition was the character of the people themselves, their sturdy habits, their thrift, their morality and their intelligence.

As the institutions of New England had been planted by more than a hundred graduates of Oxford and Cambridge, so those of Iowa were established and nurtured by men and women trained in the academies and colleges of older states. These intelligent and aggressive pioneers were also

civilization. They have helped men to know, to do, and to become. "They have gathered from all fields and distributed to all men." These harbingers of good rose with the dawn of modern states and they became their brightest stars. Every state in Europe, and every state colonized from Europe founded and nourished them.

They even gave spirit and power to conquered and languishing states, as was seen in the founding of the University of Berlin in the nation's deepest humiliation. After Napoleon had overrun fair Prussia, Frederick William III and Humboldt thus infused new life into a crushed people and prepared the way for the later triumphs of Bismarck and William I, on the plains of France. Two centuries earlier the good prince of Orange had rewarded inspired to their work by the luminous pages of history. They saw that ever since the dark ages colleges and universities had been among the foremost agencies in developing human capabilities and in advancing Christian the citizens of Holland for their valor during the Spanish siege by founding for them the University of Leyden. The enrapturing pages of Motley describe the new joy of that people, so lately the victims of famine and pestilence. The city crowned itself with flowers and marched forth midst the splendors of spectacular pageantry. And has not the grand history of that institution fully justified their joy, adorned as it has been with a long line of illustrious names for the last three centuries?

In the light of history no one should be surprised at the educational enthusiasm of our young and vigorous Iowa. Many inspiring examples and vast stores of knowledge have come to her from older states. Her front rank in literacy is due partly to the rich heritage of the past, partly to a free and benignant government, and partly to the luminous epoch which spans her history in the last half of the nineteenth century; but it is due mainly to the high character and educational spirit of her people.

The pioneers of Iowa had a passion for education which was not always wisely controlled. They, like some of their successors, were carried away by local influences, buoyant hopes and future needs of a new and prolific state.

In the early period of rapid settlement many pretentious institutions were projected. The very first legislature that met in the goodly city of Burlington, in 1838, while Iowa was yet a part of the territory of Wisconsin, showed its sensitiveness to local influence by chartering in one day, January 15, 1838, no less than five seminaries for Iowa towns, and five days later two colleges were incorporated. These so-called institutions of higher learning, like some that followed, had slender foundations except their charters and the glamour of their projectors. It is recorded that "of the fifty incorporated during the twelve years between 1833 and 1850, only two now exist under their original name." While this exuberance of educational spirit led to plans that were visionary, it also led to those that were wise and lasting. Midst blasted hopes and wasted treasures, there was developed and chastened that vigorous educational life which has given us our public school system and our colleges of to-day.

Iowa colleges have been planted amidst labor, sacrifice and inspiring hope. Some of them have already died, and must be passed in silence. A second class are still weak, though tenacious of life. Some of these may yet die of anæmia; others may struggle long and heroically, but at great

disadvantage; and still others, with proper support, may develop into institutions of high standing and permanence. The third and most important class have largely passed the period of uncertainty, and are strong and well manned. Their equipments, standards and work class them with the better colleges of the older states.

There has been a marked tendency in our state toward *multiplication* rather than *unification* of educational institutions and efforts. This tendency has been marked in both the state and denominational colleges, and for many reasons should be regretted. It has caused divided interests, duplication of professors and equipments, and in many cases the atrophy of institutions. But this multiplication of institutions has also had offsetting advantages. More communities have been stimulated to local effort and public spirit, and more youths have been turned to higher education by the neighboring college. The institutions were thus brought nearer the people and made more inter-dependent and co-operative, no one being tempted to arrogance by its enlarged prerogatives or overpowering strength.

The large number of Iowa colleges makes it impossible, in the brief space allotted to this paper, to give any proper historical treatment to individual institutions. Hence they must be considered somewhat in groups and general characteristics.

STATE INSTITUTIONS.

The state institutions which properly come under the subject assigned are the state university and the agricultural college. They were both largely aided by grants of land made by acts of congress. Two townships were granted for the university in 1840, and in 1862, 30,000 acres were granted for each senator and representative in that body for the benefit of agriculture and mechanic arts. These two funds might have been judiciously united in support of one institution, but it was decided to found two.

The first legislature of the state established the university in 1847, and located it in Iowa City, as compensation for the loss of the capital. It was first opened in 1855, but was closed three years afterwards to all but normal students. In 1860 it was reopened, and enrolled for the year 173 students, of whom twenty-two were in the collegiate department. In the thirty-six years since the reorganization the university has made steady, if not rapid, progress. The income from endowment and tuition has been too small, but is now more generously supplemented by the state. The number of students has steadily increased, till now the annual attendance aggregates 1,300.

The faculty is strong and the grade of instruction is high. The following departments are maintained: Collegiate, law, medical, homeopathic medical, dental and pharmacy. The material equipments in the way of buildings, laboratories and scientific collections are very complete. A number of expeditions have gone out from the university in the last few years in the interest of biological research, which have been profitable alike to the members and the institution.

In 1858 the legislature of Iowa passed an act to establish "A state agricultural college and model farm;" and the same act provided that each student should engage in manual labor several hours each day. The farm and college were afterward located near Ames. The general assembly, in 1862, accepted the congressional grant, and entered into contract to erect

and keep in repair all necessary buildings for the college. At the same time the college was broadened so as to include the mechanic arts as well as agriculture, and a more liberal course of study was provided. The scope of instruction has been expanding until it now includes eight courses, which are mainly technical. Since 1890 there has been an annual congressional appropriation for the experiment station which bears directly upon agriculture. The equipment of the institution is extensive and the faculty strong. These two state institutions have done valuable service for the people, and, if they are properly sustained and managed, they will be able to do far more good in the future than in the past.

The other colleges are naturally grouped under the denominations which foster them. Both the denominations and the institutions under them will be briefly treated in alphabetical order.

BAPTIST.

1. BURLINGTON UNIVERSITY.

In 1853 the first Baptist college was founded in the city of Burlington, and was named Burlington university. On the 4th of July, 1853, the cornerstone of the three-story building (which still stands) was laid with imposing ceremonies. The first catalog was issued in 1855, and reported eight teachers and 167 pupils. It made little progress in the next twenty years, and soon fell to secondary grade, and was finally closed in 1889. This descending record was largely caused by lack of resources and the rise of rival institutions and the excellent public schools of the city.

2. CENTRAL UNIVERSITY.

This institution was opened in Pella in 1853, and early attained an excellent standard of work and attracted a good body of students. During the war its record of patriotism was among the first. One hundred and twenty-four students, led by one of the professors, entered the army, of whom twenty-two fell in the service. The institution seems to have maintained a comparatively even career all these years, notwithstanding moderate financial resources and the presence of a formidable rival in a neighboring city.

3. DES MOINES COLLEGE.

The University of Des Moines was chartered in 1865. After about a quarter of a century of uncertain life the name was changed to the more appropriate and modest one of Des Moines college. The presence of three Baptist colleges in the state competing for funds and patronage was a disadvantage to all. The protracted consideration of the question of location and preference had its discouraging effects alike upon patrons and schools. Latterly the Baptist state conventions and members of the denomination outside of the state have seemed to favor Des Moines college. This college is now closely affiliated with the University of Chicago, and has a fine property and good standards of work.

CHRISTIAN.

1. DRAKE UNIVERSITY.

Prior to 1880 some of the leading minds in the Christian church had favored the establishing of a university at the capital of the state. About

that date a university land company was organized in Des Moines for the same purpose, and a strong effort made to transfer Oskaloosa college to Des Moines, which was only prevented by an injunction suit. But this did not prevent the transfer of several of the faculty and many of the students to the new institution at its opening in the fall of 1880. The name of Drake university had been chosen in honor of its most liberal benefactor, Gen. F. M. Drake, now the honored governor of the commonwealth. The institution is liberally provided with courses of study. Besides five in liberal arts, it also offers courses in law, medicine, pharmacy, divinity, pedagogy, business, oratory and art. Its library, apparatus and museum are valuable and growing. The steady enlargement of its assets and students bespeaks a useful and permanent career.

2. OSKALOOSA COLLEGE.

Oskaloosa college was organized in 1861. It made commendable progress in collecting educational equipments and in drawing students so long as it was the only college of the Christian denomination in the state, but the discussions and losses incident to the starting of the new school at Des Moines were a serious embarrassment. Since then the renewed efforts of friends and the loyalty of the alumni have materially increased the equipments, endowments and students. The number of students has been doubled in the last three years. The standard of scholarship is commended by the demand upon the alumni for professors in their *alma mater* and other colleges.

CONGREGATIONAL.

1. IOWA COLLEGE.

The Congregationalists formed an organization as early as 1837-38 "to establish upon a firm basis a college for the future state of Iowa." Ten years afterward, in 1848, Iowa college was opened at Davenport, and in the period of ten years that followed it had an aggregate of more than 1,000 students. At the end of the first decade the college was removed to Grinnell. Instruction was begun at Grinnell under the auspices of the college trustees, in 1859, and the first freshmen class was enrolled in 1861. During the civil war, which was then upon the country, class after class was decimated by enlistments, till in 1864 but two male students were left in the institution. The return of peace was marked by the return of students, new and old. "In 1871 the main building was consumed by fire, and in 1883 all the buildings and contents were destroyed by a tornado, the most complete college destruction ever known." But not a single recitation was interrupted, and not a single student left any of the college classes, and eighteen months afterward everything was rebuilt better than before, with an additional building. Surely such energy and fidelity deserved the success which followed. The college now has a fine scientific and literary equipment, a splendid property and a strong faculty. It wisely limits work almost wholly to the regular college and academy courses. A high standard is maintained, with strong courses of study loyally required.

2. TABOR COLLEGE.

Heroism and self-sacrifice characterize the early friends of nearly all Iowa's colleges. But the founders of Tabor college seem to have excelled

all others. They hated intemperance and slavery, but they loved Christian learning and Christian giving. The founders of Tabor college had received much inspiration from the work of Oberlin college. Tabor literary institute was opened in 1857, and was developed into Tabor college in 1866. During this decade the town of Tabor was a kind of storm center for ultra politicians and fanatical friends of education. The people deeply sympathized with their neighbors in "bleeding Kansas." John Brown and his friends frequently made their home there. As might have been expected, during the civil war every student who was able for duty went to the front. Since the war the college has had a steady and useful growth. Its annual enrollment for thirteen years averaged 213 students. It has five buildings with fair equipment. In recent years the faculty has been strengthened, the endowment increased and regular college work emphasized.

EPISCOPALIAN.

GRISWOLD COLLEGE.

Griswold college, located in Davenport, was founded in 1859 when the Iowa college property was purchased. It consists of four departments, occupying four excellent buildings; the school for boys, the school for girls, the collegiate department and the theological department. It is designed to be the one church college for the territory between the Mississippi river and the Rocky mountains. It has a valuable property in real estate and endowment. The boys' school is a fitting school for college, with military drill and industrial instruction added. The college has the usual four years in arts, and is provided with a good library and valuable natural history collections.

FRIENDS.

1. PENN COLLEGE.

Penn college, at Oskaloosa, was incorporated in 1873, under the auspices of the society of Friends. The college has taken good rank from the first. It has been fortunate in its faculty and students, and as a result its alumni, though young, are taking good rank. Five academies in Iowa and several in other states are directly tributary to this college. The Friends regard Penn as their special educational institution for the northwest.

2. WHITTIER COLLEGE.

Whittier college, at Salem, was founded in 1867. In 1871 it graduated a class of nine from a partial course. Five years later it reported 200 students and five instructors. In 1885 a fire "reduced to ashes all that could burn." It was revived with difficulty in 1887, and is maintained by sacrifice. Its future as a college seems to depend on the possibility of still greater sacrifice by its local friends.

LUTHERAN.

LUTHER COLLEGE.

Luther college was founded in 1861, by the Norwegian Lutheran synod. It was temporarily located at Halfway Creek, Wis. In 1862 it was removed to Decorah, Iowa, where large and attractive buildings were erected. The

main building, 52x170, was destroyed by fire in 1889, but a new building, equally imposing, was erected within a year on the same foundation. The type of the college is literary rather than scientific. The students are given a fair knowledge and appreciation of the chief languages and literatures of ancient and modern times. A cautious and conservative policy seems to characterize the entire institution. It has a faculty of ten professors and teachers and a body of 200 students.

METHODIST.

1. CORNELL COLLEGE.

Iowa conference seminary, located at Mount Vernon, was organized in 1853, and was a growing school till 1857, when a college charter was secured and the name changed to that of Cornell college. The annual enrollment had increased to 325 at the opening of the war, but under a strong patriotic feeling, college enrollments gave place to those of the army, until every able-bodied student of legal age had disappeared. Of these student soldiers ten were made lieutenants, six adjutants and ten captains. From the close of the war to the present the college has had a rich endowment of students. Women have been admitted on the same terms as men, both as students and teachers from the first. Indeed, this is believed to be the first college in the country that elected a woman to a professorship with the same rank and salary as a man. Great care has always been exercised in the selection of the faculty, and they are retained as long as possible, and as a result the policy and work of the college have been continuous and effective. For the last twenty years the male students have had the benefit of military drill under a government officer. The institution has always emphasized the specific college type and collegiate work as the unrivaled means of producing capable and cultivated men and women. The college has five buildings, excellent literary and scientific appliances, a strong harmonious faculty, and high standards of work.

2. IOWA WESLEYAN UNIVERSITY.

This institution at Mount Pleasant was incorporated in 1855, but was the lineal descendant of the Mount Pleasant collegiate institute, which had been organized eleven years before. The institution has had many strong men in its faculty and at its head, and it has made an honorable and useful record. It has several different departments, including pharmacy, and four courses in engineering, besides the musical, normal, preparatory and collegiate work. A German college is closely connected with the institution, though distinct in government. Several new buildings have been added in recent years, giving enlarged accommodations for various lines of work, including excellent chemical and engineering laboratories. The past high and useful career of the college foreshadows an increasingly successful future.

3. MORNINGSIDE COLLEGE.

About eight years ago a college was started with great enthusiasm in a suburb of Sioux City. The movement was greatly stimulated by the aspirations and prospects of the city. As a result the University of the Northwest was founded at Morningside, with a property valued at \$450,000. But

this aspiring enterprise was destined to early failure from unfortunate management and the subsidence of real estate speculation. In 1894 an entirely new institution was chartered under the name of Morningside college, having secured the campus and building of the former institution, represented at the time to be worth about \$25,000. The new institution has a type and administration entirely different from its predecessor. The work of instruction which had been started under the old organization has been continued and greatly improved under the new. The teachers are earnest and efficient, and the student body increasing and hopeful. The college has many friends, and their energy and self sacrifice deserve larger and more permanent success.

4. SIMPSON COLLEGE.

In 1861 the Des Moines conference seminary was organized in Indianola. The success of the seminary seemed to justify the enlargement of the institution into a college, which was done in 1867 under the name of Simpson centenary college. The word centenary was dropped from the name several years later. At different periods in its history the advancement and permanence of the college have been jeopardized by a divided sentiment in the patronizing territory as to what should be its settled location. The Methodists at Sidney, at Glenwood and at Des Moines all had college aspirations. These agitations, together with changes in the administration and renewed efforts for removal to Des Moines, seriously embarrassed the college. In the last few years these agitations have subsided with an increasingly settled conviction that the college at Indianola is permanent. The result of this has been renewed confidence and increased prosperity of the institution. New buildings and endowments have been added and the enrollment of students increased. The college has done much good work, has many friends and deserves an uninterrupted and useful future.

5. UPPER IOWA UNIVERSITY.

A seminary was chartered and opened at Fayette in 1857, and the name was changed to Upper Iowa university in 1858, with corresponding change in the charter in 1860. The institution owes its origin to the enterprise and liberality of two of Iowa's most public-spirited men. Its growth and usefulness for the last forty years has abundantly rewarded their faith and self-sacrifice. An earnest and laborious faculty has been inspired to its work by an increasingly large and appreciative body of students. With its five buildings, well provided with appliances for education, its good record, its loyal alumni and its many friends, increasing prosperity and usefulness is anticipated.

PRESBYTERIAN.

1. COE COLLEGE.

About 1851 the Cedar Rapids collegiate institute was organized, and developed into a college organization in 1881, and received the name of Coe college in honor of its most liberal benefactor, Mr. Daniel Coe, of the state of New York. The donation of Mr. Coe has been supplemented by other friends, thereby giving the college a fine property in buildings, endowments and equipments. Suitable collegiate and preparatory courses have been organized, and the work of instruction has been successfully carried on by a competent faculty.

2. LENOX COLLEGE.

Lenox college, at Hopkinton, is the oldest Presbyterian college in Iowa. It was chartered as Bowen collegiate institute in 1856, and the name was changed to Lenox collegiate institute in 1864. The need for such an institution was shown by more than 100 students entering the first year.

Lenox sent ninety-two students into the war.

In 1864, the president, Rev. J. M. McKean, entered the army at the head of a company in which all but four of his college students enlisted. He and forty-six of his students gave their precious lives to their country.

Lenox did not claim collegiate rank till after 1873, when the curriculum was revised and extended. The college has been especially fortunate in securing strong men for the faculty, many of whom have, from time to time, been drawn to higher and stronger institutions.

3. PARSONS COLLEGE.

Lewis B. Parsons, of Massachusetts, died in 1855, leaving a portion of his estate for the foundation of a Presbyterian college in Iowa. His sons, after canvassing the question of location long and carefully, finally selected Fairfield, where the college was organized in 1875.

Parsons college has had a rapid and vigorous growth. Year by year it has added to its resources and extended its facilities. It emphasizes regular college work in both classical and scientific departments. Its good work justifies greater growth and prosperity.

UNITED BRETHREN.

WESTERN COLLEGE.

This college was located by the church of the United Brethren at the town of Western in 1856, and was designed as the one college of that denomination in the northwest. It was founded as a manual labor school, with a farm attached, but this feature did not continue many years. On account of the inaccessible and rural character of the location, and the proximity of competing institutions, the college was removed to Toledo in 1881, where a new and beautiful building was ready for occupancy. This building, with all its contents, except the library, was consumed by fire in 1889, but was immediately rebuilt. A liberal number of courses of study is offered in order to adapt the work to different classes of students. The enrollment last year shows fifty-two college students and 235 in all courses.

UNDENOMINATIONAL

AMITY COLLEGE.

The original idea which led to the founding of this college was that of "A college of Christian reformers," which should purchase a tract of government land for families, on a plan that would insure a permanent fund for an institution of learning, where manual labor should be encouraged and all reformatory principles inculcated. After several committees were sent out in 1853 and 1854 to search for the best locality, they finally settled at College Springs, where this school was incorporated under the name of "Amity college" in 1855. The school, which for many years was only an academy, was organized on a college basis in 1872. The various early

efforts to develop college life and spirit resulted in a failure. But after a time, under the leadership of some good men from other colleges, quite an educational change was wrought. The college is now aspiring to good work and permanent usefulness.

In addition to these very brief historical sketches of the individual colleges, I have prepared a table as a part of this paper, giving statistics of seventeen of our leading colleges. The list of colleges which I have selected for this table is the same one that was given in one of the reports of a committee of the state teachers' association, with the Iowa state agricultural college added. And the names are given in the same order as presented by that committee.

The following is the list of colleges which answered my questions: State university, Cornell, Iowa, Parsons, Penn, Simpson, Des Moines, Tabor, Drake, Luther, Western, Central, Upper Iowa, Iowa Wesleyan, Amity, Oskaloosa and Iowa state agricultural.

Each of these colleges has answered 21 questions, which answers I have carefully tabulated as follows:

*No report received.

†Includes students in both preparatory and normal departments.

‡Year 1895-96.

Years in collegiate courses.	Years in preparatory courses above common branches.	Number of bound volumes in library.	Value of scientific apparatus and library.	Value of grounds and buildings.	Amount of permanent, productive funds.	Income from tuition fees.	Income from permanent funds.	Total income from both.	Total money value of all funds and property.
4	40,000	\$ 250,000	\$ 400,000	\$ 230,000	\$ 57,620	\$ 81,734	\$ 139,354	\$ 880,000
4	14,058	18,588	200,000	100,000	21,875	4,137	25,512	218,538
4	21,200	25,000	175,000	300,000	20,000	22,000	42,000	500,000
4	4,000	10,000	100,000	150,000	3,500	9,000	12,500	280,000
4	4,500	8,000	75,000	30,000	5,968	1,200	7,168	113,000
4	3,100	6,500	100,000	64,239	8,392	3,888	12,280	170,739
4	3,500	4,000	40,000	55,000	2,112	3,333	5,450	99,000
4	8,000	20,000	40,000	80,000	5,200	5,600	10,800	140,000
4	5,000	23,000	145,000	159,830	30,000	10,000	40,000	327,830
4	7,755	10,000	80,000	8,528	1,878	475	2,353	98,528
4	3,000	2,500	68,000	.....	5,600	.....	5,600	70,500
4	4,000	3,000	27,000	23,000	2,500	1,800	4,300	53,000
4	5,250	15,000	80,000	43,000	8,500	1,850	10,350	128,000
4	100,000	72,000	.....	.....	.....	172,000
4	2,500	5,000	45,000	33,000	3,400	2,600	6,000	83,000
4	4,000	5,000	80,000	25,000	2,500	1,500	4,000	60,000
4 2 and 3	13,000	125,000	425,000	681,033	.....	80,000	80,000	1,231,033
.....	142,860	\$ 530,538	\$ 2,120,000	\$ 2,054,628	\$ 178,543	\$ 229,122	\$ 407,665	\$ 4,715,166

Question No. 1. Date of charter or opening.

I am surprised to find that the year 1861 is the average date of founding all these colleges, which makes the average age of each just 36 years.

Question No. 3. The whole number of former presidents is 78, adding the present incumbents makes 95, an average of a little more than 5½ presidents to the college, or an average of less than 7 years to each president.

Question No. 4. The present number of regular professors in the collegiate departments being 220, gives an average of nearly 13 to each college, which is a pretty good showing

Question No. 10. The 5,805 alumni gives 34½ to each college. It is impossible to estimate the vast good to human society accruing from the education of these 5,805 college alumni. If our colleges were all blotted out of existence to-day we would have been more than paid for their building.

Question No. 11. But the value of these institutions is still more intensified, when we see in the answers to question eleven, that there have been over 60,000 students, more or less, educated in these colleges, who did not attain graduation.

Who, then, can measure the real value of these three kinds of assets, represented by these 17 colleges—assets financial, assets intellectual, and assets moral. Character, the highest and best treasure, cannot be adequately tabulated in earthly records, but must finally be recorded and measured in Heaven.

The data from the other colleges of our state, not included in this table, had we been able to secure it, would have been equally valuable and instructive.

I cannot better express the value of our colleges, and incidentally the cordial harmony of the different branches of our educational system, than to close this paper by quoting, and thereby reaffirming two resolutions unanimously adopted, a few years ago, by our state teachers' association, which represents all departments of education in the state:

Resolved, That the noble purpose which planted denominational colleges in this country, the heroic self-denials that have continued and improved them, and their grand influence in the promotion of the intelligence and virtue of the American people, command our confidence, our gratitude, and our heartiest good will.

Resolved, That the munificence of the federal and state governments, in the creation and support of state universities, has been timely and wise; that the growth and influence of these institutions have been most gratifying, and that we welcome them as the crown and glory of our public school system.

CONCLUSION.

If I have made but few recommendations in this report, it is because I fully believe that at this present time any radical changes would work injury rather than benefit to the schools. To strengthen the things which remain, to build up what we have already commenced, is the most pressing duty of the hour.

With the close of the present year my official connection with the school system of Iowa will end. I can truthfully say that I lay down the burdens and cares of this office without a single regret. I shall welcome gladly the morning when I can hand my keys over to my successor and bid him "God speed."

For more than a quarter of a century I have been a part of the school system of Iowa. For eight years I have been in this office, a longer term of service than has been accorded any of my predecessors.

If I have not accomplished all that I hoped to, or all that others expected of me, I cannot be blamed, provided I have done my best. If I have been slothful and indolent, if I have permitted trusts and combines to prey upon the public, if I have not thrown my heart and soul into this great work, if I have been faithless in any degree to the trusts reposed in me by a generous people, then I deserve execrations here, and oblivion hereafter. But if I have striven with all my strength, if I have given myself unreservedly to the cause of popular education, if I have counted no labor too severe, no exertion too great, if thereby I could place the educational standard upon a higher plane, then it is not presumption in me to cherish the hope that my name may not be forgotten when the educational history of Iowa is written.

I tender to my successor, Hon. R. C. Barrett, of Osage, my best wishes, and ask for him the hearty co-operation of the teachers of the state.

I commend to you, gentlemen of the legislature, these words of an eminent writer, when the school law of Iowa was first under consideration. They are true now as they were then:

"Here for the first time comes a great state, situated in the center of a mighty union, possessing exhaustless resources of agricultural and mineral wealth, binding together its various parts by a net-work of iron, and demands a system of public instruction adequate to the full development of its great physical resources, and of the intellectual and moral power of its people."

Respectfully submitted,

HENRY SABIN.

APPENDIX.

EXTRACTS FROM REPORT OF COMMITTEE ON
RURAL SCHOOLS.

be substituted for the district system; in the county-system states the county-school system is the natural alternative to the district system.

2. In those parts of the country where existing physical and social conditions render it practicable, there should be such a consolidation of rural schools as will diminish the existing number of schools, schoolhouses, and teachers, and bring together, at advantageous points, the pupils who are now divided and scattered among the isolated schools of the township or other similar districts.

3. There is urgent need of lengthening materially the time that the country schools, on the average, are in session each year. The ideal should be a minimum school year in every state of at least 160 or 180 days.

SUBCOMMITTEE ON SUPERVISION.

LAWTON B. EVANS, CHAIRMAN.

1. As to the character of the supervisor who is brought in contact with the rural school-teacher in the discharge of his official duties:

(1) He should be selected with special regard to his peculiar fitness for that office. Whether his office is elective or appointive, his qualifications, in order that he may be eligible, should be such as to enable him to challenge the respect of those whose work he is required to supervise.

(2) In regard to his scholarship, it should breathe that essential spirit of learning necessary to making good, strong schools. The position of supervisor should be made professional with a view of meeting the demand for the best education which the rural school can possibly afford. This requires a scholarship which is above that of the ordinary man. The tendency to put persons in the supervisory position who have no mental attainments worthy of mention is earnestly deprecated.

(3) In regard to moral character, the supervisor should be a living, inspiring example of such a life as alone is worthy the Christian civilization of our times. He should carry with him a spirit of sincerity in his work, so that people, teachers and pupils may look to him with hearty respect, and with entire confidence in the integrity of his purposes.

(4) In regard to his professional spirit, he should be in touch with the best educational thought of the times, carrying with him to the country school-teacher, and to the people of a rural community, the freshness and life which come from reading and studying whatever bears upon the questions he is called upon to aid in solving. He should be a leader, endowed by nature with strong native sense, and at the same time able to impart enthusiasm and energy to all with whom he comes in contact.

2. As to the purposes of rural school supervision:

(1) It should serve to inspire and stimulate the rural school-teacher. If the supervisor is alive to his opportunities, every teacher within the sphere of his influence will be quickened and lifted up to higher efforts for the good of the school. The teachers should learn to look upon him as a friend, and not as a critic; as a wise counsellor, and not as a mere fault-finder.

(2) It should be the means of awakening and stimulating the pupils as well as the teacher. They should look for the visits of the supervisor with pleasure, and profit by his talks and advice. By instituting a system of central examinations for the rural schools, he may quicken and encourage

the brighter pupils to obtain the best education within their means. The influence of a scholarly supervisor over the pupils is a very desirable thing in the rural school.

(3) The improved condition of the rural schoolhouse is a sure index of the work of a competent supervisor. The present lamentable condition of these buildings is due largely to ignorance and neglect. Competent supervision in skillful hands can work a marvelous change. The cultivation of a spirit of order and neatness which leads to the ornamentation of the school grounds and to a watchful care over all the environments of the schoolhouse, is one of the purposes of supervision.

(4) Supervision does not accomplish its legitimate purpose when it fails to cultivate a strong, healthy public opinion in favor of everything which tends to make a good school. Hence, the supervisor who contents himself with a perfunctory visit to the school only is not a supervisor in the broad sense of that word. A large share of the work of the supervisor is away from the school and among the people.

3. As to the results to be expected from intelligent supervision:

(1) In regard to the school, it unites teachers for a common purpose, and, by teachers' meetings and by the visitations of the supervisor, it breaks up the monotony and isolation of the country school. Under its influence better teachers find their way into the schools, better methods of instruction prevail, and the tone and spirit of the school are greatly improved.

(2) In regard to the community at large, supervision is just beginning to do its legitimate work. In the establishment of school libraries, in the relation of the supervisor to the directors, in an improved school architecture in which due regard is had to sanitary conditions, in the ornamentation and care of the school grounds, in school extension, in the introduction of studies which will add to the attractiveness and profit of life on the farm, in the consolidation of small districts into larger and stronger schools, in awakening a public interest in rural education, there is a field large enough to occupy the time and thought of the most progressive and most intelligent supervisor. It is here we are to look in the near future for the best results of supervision as concerns the rural schools of the country.

SUBCOMMITTEE ON SUPPLY OF TEACHERS.

C. C. ROUNDS, CHAIRMAN.

Your subcommittee on the supply of teachers for rural schools, in closing its report, would call attention to some of the main points in this discussion.

It appears that there are numerous agencies which may be made available for the improvement of rural school teachers already in the service. With these the only question is that of more perfect organization.

Although there is in general an increase in interest in educational questions, and an elevation of standards of teaching, yet the large majority of rural school teachers now enter upon their work with no professional preparation; the improvement in the character of rural schools, where there has been any improvement, has been slow; large sections of the country report no advance, some report a decline.

The causes for this condition, and the changes needed, are not far to seek:

1. The school year must be lengthened to a full school year of nine or ten months, in order that skilled teachers may be retained. This result can be secured, as it has been secured elsewhere, when its absolute necessity has been recognized. The state, among other conditions for payment from the school fund, may prescribe a full school year, which is done in England, as logically as six, or seven, or eight months, now done in some of our states, or it may secure this result, as it has been secured in Canada, by making the length of the school so prominent a condition in the distribution of the school fund as to insure the co-operation of the county and the town to this end.

2. The existing agencies for the supply of teachers for rural schools do not suffice. There must be modifications in these, and the provision of others.

3. There must be some definite standard for the certification of teachers, coming within reach of the teacher of the rural school, and encouraging advance to such higher degrees of attainment and skill as will give full professional recognition. And your committee believes that some provision should be made to secure inter-state recognition.

The question of finance does not lie within the province of this subcommittee, but it does not believe that the financial difficulty need prevent the necessary reform. When there is once full recognition by the state of its final responsibility for the education of every child within its borders, there will be possible such an adjustment of expenses between it and the lower educational units as will be burdensome to none and just to all.

Your subcommittee has sought to ascertain accurately what the rural school now is; in all its suggestions it has had in view the rural school as it ought to be. It believes that this nation can have such a system of schools for all its people as may challenge comparison with any other, and that it will have such a system when it clearly perceives the injustice and the peril of the present condition, and the way in which safety lies.

SUBCOMMITTEE ON INSTRUCTION AND DISCIPLINE.

W. T. HARRIS, CHAIRMAN.

REMEDIES FOR THE EVILS OF THE RURAL SCHOOL.

Your subcommittee would here point out that some of the evils of the rural school are due to its non-social character, its inability to furnish to each of its pupils that educative influence that comes from association with numbers of the same age and the same degree of advancement. The rural school furnishes only a few companions to the youth, and those either above him or below him in grade of progress in studies. The remedies for the evils of the ungraded school are suggested by this very feature or characteristic. Radical remedies in this case must all contain some device to bring together pupils of different districts and bring into wholesome competition with one another the pupils of the same grade of advancement.

Transportation to Central Schools—The collection of pupils into larger units than the district school furnishes may be accomplished under favorable circumstances by transporting at state or local expense all the pupils of the

small rural districts to a central graded school and abolishing the small ungraded school. This is the radical and effective measure which is to do great good in many sections of each state. As shown already by the subcommittee on the maintenance of schools, Massachusetts paid in 1894-95 the sum of \$76,608 for the transportation of children from small rural schools to central graded schools—213 towns out of a total of 353 towns and cities using this plan to a greater or less extent, and securing the two-fold result of economy in money and the substitution of graded for ungraded schools. The spread of this plan to Maine, Vermont, New Hampshire, Connecticut, Rhode Island, New Jersey, Ohio, and some other states (see report of Bureau of Education for 1894-95, pp. 1469-82) demonstrates its practicability. Experiments with this plan have already suggested improvements, as in the Kingsville experiment in Ohio, where the transportation reached in all cases the homes of the pupils and yet reduced the cost of tuition from \$22.75 to \$12.25 a year for each of the fifty pupils brought to the central school from the outlying districts.

Special Appropriations for Small Rural Schools.—The device of securing skilled and professionally trained teachers by providing, as in California, a sufficient salary for each district, no matter how few its pupils (see *Appendix C*), has already been described by another subcommittee (that on maintenance). It is undoubtedly a wise measure, provided it does not hinder the consolidation of districts through the adoption of the Massachusetts plan. If it works to preserve the small ungraded school in places where consolidation is feasible it will in the end be an injury to the cause of rural schools. Your subcommittee, therefore, ventures to call attention to the importance of adopting such laws as are operative in California, New Jersey, Massachusetts, and New York, for the better remuneration of rural school-teachers, but with a proviso that makes it a pecuniary advantage to a town to abolish its outlying ungraded schools and furnish transportation to a central school.

Concentration of the Higher Grades of Pupils.—Where transportation of the whole school is not feasible it sometimes happens that the teaching may be very much improved by the transfer of two or three of the pupils of the higher grades who consume very much of the teacher's time. By transportation of these two or three pupils to the central school the teacher thus relieved may find time for much better instruction of the pupils in the lower grades who remain under his charge.

School Extension.—In this connection another branch of what is called "school extension" or "university extension" is practicable. Home reading can be managed from the same center, namely, the rural school. Everything that adds social importance to the rural teacher may be of service. It is evident that those pupils who have graduated from the public school and have entered upon the business of life may profitably carry on useful courses of reading in the various departments of literature and art, science, and history. The township or union township superintendent, in conjunction with the county superintendent or state superintendent, should set into operation, as far as possible, courses of home reading, employing the aid of the rural school teachers to carry this into effect. A record containing the names of the persons who have undertaken home reading, the names of the books completed, and the dates of such completion, will form an interesting record. This home reading, moreover, should have its social

gatherings in which there are discussions of the contents of particular books that are read. For this purpose the township superintendent or the county superintendent may select specially well-fitted persons who shall present analyses of the books and discussions of their contents. It is desirable that the course of home reading shall not be one-sided, but shall move in each of the three directions: literature, including poetry and prose; science, looking towards the organic and inorganic kingdoms of nature, the plant, the animal, and the details of matter and force; and towards archæology, ethnology, and sociology, and politics, history, biography, and art. One must not be altogether dissatisfied if it is found that the novel is the chief book in demand, especially in the first five years of the home reading circle. In our day the novel discusses every question of history, politics, sociology, and natural science. The old fashioned novel which describes manners has its great use, too, in the fact that it gives to the people of whom we are speaking, the people of the rural districts, a ready knowledge of manners and customs of polite society. In this respect it is sometimes more useful than books of science and history.

CONCLUSIONS OF ENTIRE COMMITTEE MADE TO THE EDUCATIONAL COUNCIL.

HENRY SABIN, CHAIRMAN.

SUMMARY.

1. For purposes of organization, maintenance, or supervision, nothing should be recognized as the unit smaller than the township or the county; the school district is the most undesirable unit possible.

2. Every community should be required to raise a certain sum for the support of its schools as a prerequisite for receiving its share of public money. A certain definite sum should be appropriated to each school out of the state funds, and the remainder should be divided in accordance with some fixed and established rule, a discrimination being made in favor of townships most willing to tax themselves for school purposes.

3. One of the great hindrances to the improvement of the rural school lies in its isolation, and its inability to furnish to the pupil that stimulative influence which comes from contact with others of his own age and advancement. The committee, therefore, recommends collecting pupils from small schools into larger and paying from the public funds for their transportation, believing that in this way better teachers can be provided, more rational methods of instruction adopted, and at the same time the expense of the schools can be materially lessened.

4. There is a tendency to fill the rural schools with untrained, immature teachers. The establishment of normal training schools, under competent instructors, with short courses, each year of which shall be complete in itself, would do much to remedy this evil. The extension and adjustment of the courses and terms of the state normal schools so as to constitute a continuous session would enable them to contribute more directly than now to the improvement of the teachers of rural schools. The state would then be justified in demanding some degree of professional training from every teacher in the rural as well as in the city schools.

5. The establishment of libraries, the prosecution of the work of school extension by lectures and other means, the introduction of such studies as will have a tendency to connect the school and the home, especially those having a direct bearing upon the everyday life of the community, and the necessity of applying the laws of sanitation to the construction of rural schoolhouses, demand immediate attention.

6. The rural schools are suffering from the want of official and intelligent supervision. In every state some standard of qualifications, moral and intellectual, with some amount of actual experience, should be demanded by law from those who aspire to fill the office of superintendent or supervisor of schools.

7. Good morals and good manners constitute an essential part of an educational equipment. The inculcation of patriotism, of respect for law and order, of whatever tends to make a good citizen, is of as much importance in a small as in a larger school. Regularity, punctuality, obedience, industry, self-control, are as necessary in the country as in the city school. Country school teachers should call to their aid the beautiful things in nature, that with reverential spirit they may lead the children to reverence Him who hath made all things good in their season.

THE SCHOOL AND THE FARM.

F. W. PARKER.

Without attempting a course of study, I may be allowed to make some suggestions. In these suggestions I present only the common and common-sense things needed in farm work and farm life, and endeavor to show why they form the substantial basis of all study.

GEOGRAPHY, GEOLOGY, MINERALOGY.

The child's knowledge of geography may be made the basis of all his further study of that subject. He brings into school geographical images of the farm and the surrounding landscape. He is tolerably well acquainted with the topography of his district, and it may be, of the town. First, find out how much the pupils really know of these subjects. Get them to describe the farm or any part of it. How many fields are there? Where are the pastures? The woods? What are you raising in each field? How many cattle have you? Describe them. Tell about the sheep, the horses, the hens. Get pupils to sketch the farm on the blackboard, paper, or slate.

A pile of sand in the yard might be used for modeling the farm, showing hills and valleys, plains and brook basins. In winter rough boards with raised edges might be used for sand modeling. Later, chalk modeling should be used to indicate the relief of the land.

The beginning of political geography by the divisions of the farm into fields and pastures may be made. The lay of the land, the relative positions of these form good lessons in the points of the compass. Pupils would compare one farm with another, so that in time they could model and draw the whole district, including the roads.

If there is a stream in the neighborhood, it may be used as a study of the brook basin, the wearing of water—a good introduction for geology. The examination of the soil after rains, especially loosened soil, may be studied to show the effect of storms in erosion. The dip and formation of

the surface, division into hills or plains, bottom lands, and bluffs, may be related to the working of the stream.

The study of mineralogy may begin with the study of soils, the kind of soils, and the forms of the grains. Specimens of gravel, sand, loam, vegetable mold, clay, and rock should be brought by pupils to school and studied. How is vegetable mold formed? What in the soil is useful for plant life? How does the soil change through vegetation and under cultivation, and also under the action of heat, water, frost? It is easily seen that all these are elementary studies in weathering—dynamical geology.

If there are rocks on the farm, they may be studied; the archaic rocks, the secondary rocks, the strata, and the dip of the rocks—all so many points of introduction to geology. Boys on the farm will know something of the mineral on different parts of the farm, in different fields. In general the bottom land is the richest, and the question might easily be asked, Why? In this relation uses of the different kinds of soil may be studied. Questions of why one crop will grow in one portion of the farm, and not in another, and why crops should change or rotate from year to year, should all be brought in.

Housekeeping, butter and cheese making, cooking, gardening and affairs pertaining to home economy should be taken into the school. Draw and describe your garden. Divide it into beds. Locate the flowers, the vegetables. Sketch your hens, the turkeys. How do you make bread?

METEOROLOGY.

Elementary studies in distribution of heat would come through the changes of the seasons. The shadow stick may be used, showing the changes in the sun's position relative to the earth. A sun dial on the schoolhouse should be made. The daily changes in the sunlight coming through the different windows may be measured through shadows on the wall. It is a very easy matter to get the daily weather reports and examine them. Every country school should have a thermometer, barometer, anemometer, and rain gauge, to measure the force of heat, the weight of the air, the velocity of the wind, and the depth of the rainfall. Pupils should make weather reports day by day and compare them with the printed weather reports. The elementary study of air and its composition should be made by its weight, direction, and velocity. The study of evaporation of water, followed by the forms of water in the air—fog, mist, and cloud, should be made. Pupils may be called upon to make daily prophesies of the weather, and give their reasons for the same. Every change of the atmosphere, shower, rain, hail, snow or wind may be taken advantage of for this purpose.

The uses of water may be discussed, especially the uses of water for vegetable life; the drainage of the land, especially on farms where the land has to be tiled, or where irrigation is necessary. Questions like these may be subjects of investigation. How far does the water go down into the earth? What stops it? The cause of a spring? A brook, creek, rivulet or river? The saturation of different kinds of soil and rock by water. Depth of the wells and changes in the water level. Into this discussion would come the question of floods and flood plains, and of silt brought down by the water, how and where deposited, that is to say, if there is a creek or a river on or near the farm.

These are some of the innumerable points in regard to meteorology that impinge on the child from all sides, and lead to higher and more difficult questions and investigations.

PLANT LIFE.

I should place first in this study the crops upon the farm; the study of the corn; its history; its nature; different kinds of corn; the uses of corn. The same may be said of wheat, oats, rye, and barley. How land should be fertilized for different crops. Study of the food of plants, nutrition, etc. The grasses may be studied; different kinds of grasses brought into the schoolroom.

In the spring germination of seeds may be especially noted. Seeds should be planted in boxes in the schoolroom. It would be an excellent plan to have a half-acre garden near the school; in which the experiments could be performed, and in which the farmers of the district would take a deep interest. The garden could be made of value, and should include everything that is raised on the farm. There should be a preliminary study of plants, especially flowers, in regard to function. Little or no attempt, at first, should be made to close analysis, or to classification. The guide in the elementary study of all subjects should be function.

Forests; different kinds of trees on the farm; leaves, and bark of the trees; deciduous and nondeciduous trees; the uses of wood for heat, shelter, and household furniture.

ZOOLOGY.

The study of domestic animals and their functions; cows, and different kinds of cows; milk, and how milk is changed to butter and cheese. The history, for instance, of butter and cheese-making, from the old-fashioned churn to the creamery. Study of horses, and sheep; use of wools; meat of different animals. Study of wild animals, birds. Get each pupil to make a list of all the birds he sees upon the farm during the year; when they come, how long they stay, when they depart. This would bring observations in regard to migration. Name the birds staying upon the farm all summer. Where do they build their nests? How do they raise their young? What do they eat? What birds are injurious to the farm? What birds are useful? The pupils could learn many a profitable lesson; would find that most of the old ideas about birds are totally wrong; that many, if not all, of the birds that have been counted mischievous are really helpful; that birds are needed on the farm to kill destructive insects; that the little damage which crows, for instance, bring about is comparatively nothing to the good they do; that the birds are really "nature's militia" to destroy the enemies that menace the life of vegetable, plant, and tree.

Another study is that of destructive insects; the wood-borers, the canker-worms, the weevil; a very practical study. Then there are the bees, wasps, butterflies, and their uses in efflorescence. The wonders of honey-making. The earthworms and the effect they have upon the soil. The boy will be sure not to leave out the woodchuck, the fox, the coon, or the muskrat. He may even learn that the unpleasant little skunk has a use and a place in the world.

PHYSICS AND CHEMISTRY.

Wherever forces are seen, felt, or handled, an inquiry into the nature of such forces is the study of physics. Meteorology is one of the great

nents of physics. Distribution of sunshine, the working and nature of the force and wearing of water, measurements of air, of the wind, close to the child, who needs only good teaching to lead him to closer investigation.

Practical uses of force suggest many problems: force of running water; windmills; force of wind in turning windmills; the economical application of force in farm machinery from the apple-parer to the reaper; the use of the lever revealed by wedge and crowbar; the turning of the screw; and the use of the jackscrew in raising buildings.

Natural changes are taking place in earth, air, and water, and are constantly applied in the household affairs. The teacher has an excellent opportunity to call attention to the chemistry of cooking; to yeast; to milk fermentation to butter and cheese; the making of lye and soap; the use of metals. The composition and nature of different soils are a study; the effect of sunlight upon foliage in the production of leaf; the transpiration of water through vegetable tissues, bearing nutriment cell to cell. The burning of wood and its change into ashes.

MATHEMATICS.

There can be no work properly done upon the farm without measuring. This measuring is done by what is called "rule of thumb," or so-called practical judgment. The farmer estimates weight of cattle, hogs, or by sight. He can tell how much cord wood or timber a certain area will produce. In fact, measuring in everything he does is absolutely essential. There is no better way for the teacher to study the problem of measuring, or arithmetic, than to inquire into everyday demands of farm work, and no better way to teach arithmetic than to bring the measuring necessary for farm work into the schoolroom. The elementary and the work that ought to be continued throughout the course. It is largely estimation with eye and hand, of length, of distance, area, weight, bulk, force, and weight; the estimates to be verified by actual measurements. That which a farmer is called upon at every turn to do can be begun with the children. And here the parent can supplement the teacher at every step.

In developing the mode of judgment, the pupil should be trained to use the chain in measuring areas, the yard stick in measuring cord wood, the tape in lumber, dry measure for grain, scales for weights, liquid measure for milk, vinegar, or molasses.

The outcome of all raising of crops is commercial value. There should be a system of farm bookkeeping, in which writing and arithmetic play a prominent part. Children could be easily trained to keep books for their parents, and the work of the farm be made to present all the problems and problems for a complete mastery of all essentials in arithmetic.

READING AND LITERATURE.

The suggestions already given are for the elementary study of subjects. But in all these subjects will lead directly to a great desire to know from the observations and investigations of others. Here reading and study of text-books have their great place. The first steps in reading are short stories of the farm, of the crops, of the animal and plant life, and in simple sentences upon the blackboard. The reading lessons

should be closely related, and from beginning to end bear directly upon the subjects the child studies.

The process of learning to read is a very simple one if the free, spontaneous action of the mind is not obstructed by abnormal methods. When the proper stage of development, which manifests itself in an intense desire to gain knowledge through the printed page is reached, the child will learn to read as easily as he has already learned to hear language. All reading should come close to the child, should enter into his personal experience; should be about something he feels the need of knowing—facts about his pets, about things he loves to do—words that re-image familiar scenes. This would make reading and the selection of good literature a habit for life.

WRITING, GRAMMAR, SPELLING.

Writing is one of the modes of thought expression. The fundamental necessity is *to have something to express*, some image to control and steady the hand, some earnest desire to communicate with others by means of writing. Skill in writing takes care of itself if the teacher writes rapidly and well. Technical skill is nine-tenths imitation. The main thing is the impulse which the teacher discerns, seizes upon, guides and controls. The farm is rich with interesting subjects, rich for the novice of 6, or the pupil of 16. Descriptions of animals, plants, forests, fields, pastures, hills, valleys, soils, the germination of seeds, the gardening, the shower, the clouds, the rainstorm, hailstorm, snowstorm, the cyclone, the raising of crops, the cutting and curing of hay, the harvest, the market—these are among the innumerable subjects that may be made of intense interest to the children of the country. The little ones may write a word, a line, or a paragraph; the older ones, pages.

MANUAL TRAINING, ART.

One central and invaluable thing gained on the farm is the necessity for and habit of work. All work on the farm should be honored in the school-room by expanding and concentrating it. The school should send back the children to the farm filled with the dignity of labor.

The work of the farm, in a broad sense, is manual training, but most farm boys get a coarse way of doing manual training. They do not learn to use their hands expertly as they should. On all farms there should be workshops for the mending of tools, construction of materials and apparatus for farm work, and in the country school there should also be a small manual training department in which pupils may be trained to use their hands skillfully in making things needed for the farm and the home.

Apparatus for experiment could be made with a small outfit, a bench, a few tools, lumber and metals. Much of the lumber could be brought by the pupils from the farm. They could cut the wood. If it needed sawing, it could be sawed at the mill. Wood manual training is one of the best ways to learn the uses of woods. There should be a small forge, and some work in iron and other metals as well. Every boy and girl should have a work bench at home and wood-carving materials, to develop the instinctive habit of whittling into something useful and ornamental. Long winter evenings could be profitably utilized in manual training and the exercise of the arts.

The objects of art are countless, the modeling, painting and drawing of land surfaces in geography, and illustrations in geology and mineralogy. Landscape and plant life furnish a great number of subjects for painting. Children have a perfect passion for drawing, until it is crushed by over-attempts at accuracy, or by the drawing of flat copies. With a good black-board, which is the best piece of educational apparatus ever invented for school or home, children could show the different kinds of crops; draw corn-stalks, grasses, flowers and trees. Of course, these drawings would be crude, but at the same time they would be satisfactory to the child, and justly, for they would correspond with his images; the drawing, in turn, would stimulate observation, and the result would be clearer insight. Exact drawing could be introduced in measuring or arithmetic, and in making projection drawings or manual training. Experience has shown that children take great delight in such work, and that it is in the highest degree educative.

INDUSTRIES AND COMMERCE.

The study of the commercial side of farm products should have its place in the school. The cost, the selection, the use of crops, and their value in selling. Here arithmetic and bookkeeping would come in. Transportation of crops would have its place, the team, the railroads. Where farm products are consumed. The subject of farm tools, instruments of work, may be studied. How crops are prepared for the market; the question of mills; the preservation of foods; barns; winter protection of cattle; ensilage. Transportation, beasts of burden, wagons, railroads, steamboats, in our own and foreign countries. The beginning of history, how others live and have lived, is involved in this idea of commerce.

HISTORY.

The elements of history are everywhere present on the farm. The history of farming tools, from the sickle to the reaper; from the crude plow of the poet to the steam plow of to-day; from the hoe to the cultivator. The history of butter-making, from the old fashioned churn to the model creamery. The story of the mill; the history of the potato; of maize, of the tomato. How beets are now competing with sugar cane. If there is an experimental station in the neighborhood, it should be used as an auxiliary to the school, where the history and present status of agriculture may be studied.

Most towns in the eastern states, and some in the west, have interesting local histories. There are generally stories of the Indians, of settlements, of colonization, of noted men and women, of the part taken by the citizens in the civil war. A strong love for history can be induced and fostered by beginning this study close to the home.

The breakfast and dinner table furnish excellent starting points in the study of history. How much does the farm in itself furnish of the food of the family? What is obtained outside, and where is it obtained? History of the making of cloth, the story of the spinning wheel and the spinning jenny; the hand loom and the power loom. The study of the inventions used on the farm will lead directly to the biographies of their inventors and the relation of machinery to human progress. The history of roads and road making, back to the time of the Romans. There should be lessons in every school upon the necessity and practicability of good roads, and the best methods and material for making them.

CONCLUSION.

The tremendous advantage of a rational course of work in country schools is that it would make a strong, binding union of the home and the school, the farm methods and the school methods. It would bring the farm into the school, and project the school into the farm. It would give parent and teacher one motive, in the carrying out of which both could heartily join. The parent would appreciate and judge fairly the work of the school, the teacher would honor, dignify, and elevate the work of the farm. Farmer and housewife would be ready to discuss the methods of the farm and housekeeping in the school. Children, parents, and teachers could meet at stated periods and hold discussions in the direction of their highest interests.

The farmers would become deeply interested in having libraries in the schools, carefully selected. Long winter evenings could be spent around the fireside in mutual study; parents helping children, and the children, in turn, arousing and stimulating parents.

Country life too often fails in the proper social conditions. It tends to isolation. A common purpose of education would obviate this. The farmer would often invite the school to visit his farm, and to study it. Pleasant and profitable social meetings would be the order of the day. The teacher, with clear ideas of what education ought to be, would bring the people of a district together to discuss the welfare of their children. Exhibits of pupils' work, of manual training and the arts would naturally follow and greatly increase the interest.

No method, no system of schools, no enrichment of courses of study, not even the most successful of teachers, can ever take the place in fundamental education of the farm and the workshop. No matter how good the city schools may be, or may be made; no matter how good the state of society may be, the vital reinforcements of city life that lead to progress and prosperity, so far as we can see, must always come from the sturdy stock of the farm. This fact, upon which most educators agree, puts upon the country school an immense responsibility. It is no small office to train the men and women who are to lead and guide the future of the republic.

The country schools have every advantage, so far as material means are concerned; their environment is rich in organic and inorganic forms; but in one thing they are lacking—the teacher who can utilize that which offers itself in such abundance. This is a want which every thoughtful person deplures, a want that will be met when the farmers themselves realize what a powerful influence for good their schools may be made.

When skill, expertness, and insight control the methods of country schools; when excellent teachers remain in the same schools year after year, the already powerful influence of country life upon the destinies of the nation will be mightily enhanced.

A large majority of boys and girls upon the farm entertain mistaken notions of life in cities, and early form a desire to enter into the seemingly greater advantages to be found in such centers. This leads to the congestion of cities, and disturbs the social balance. School education alone can cope with this disease of the body politic, and this by fostering an interest in farm life and farm work.

must be led to see something more in farm life than patient, con- work of planting, sowing, care-taking, and reaping. Many a young ves the farm to become a mere counter-jumper in the city, who, if the right education, would make himself an influential and success- ter.

dea, then, is that the country school should make farm labor and all onorable; should dignify it; should show that the environment of ntry furnishes inexhaustible resources for intellectual life; should , that the aesthetic side of child nature be assiduously cultivated; , child bring a loving heart to nature, have an appreciative eye for al things; that he be led to see the possibilities in the landscape of n—the necessity of making excellent roads, well lined with shade hat the so-called practical things of life, hard and severe labor, have their highest outcome in the cultivation of the love of the al in life—that love which leads the soul to profound reverence for gs of earth, because they are loving gifts of an infinite God.

ENRICHMENT OF RURAL SCHOOL COURSES.

T. C. CHAMBERLIN, CHAIRMAN.

he Chicago meeting of the committee on rural schools a sub- tee was appointed to report, in the form of an appendix, a scheme enrichment and vitalization of the work of the rural schools by f subjects drawn from rural life and surroundings. We do not deem rovince to discuss the theory of the rural school program, much broader problems of the country school. It may, however, conduce ter appreciation of what we suggest if we frankly state at the outset mptions on which we have proceeded.

take it for granted that the work of every school, rural or other- ould embrace subjects drawn from its environment and from the ts pupils. We assume that it should do this—

use children should be taught to gather culture, knowledge, and tion from everything with which they come in contact;

use children should acquire the habit of bringing to bear their lge and their mental powers upon every subject of thought that thin their experience;

use the study of the environment is especially effective in dis- and inspiration, since it is tangible, vivid, and impressive, and s strong and clear concepts and produces deep and lasting educa- ffects;

use mental acquisitions thus associated with the environment will stantly revived by recurrent contact with it, and will thus be ed and kept alive and effective;

use the basis for a successful study of the unseen and the intangi- est laid in clear and strong impressions of things seen and realized;

use the school work is thereby made directly serviceable to the life, the value of immediate and practical utility being added to erior disciplinary and inspirational values;

use it puts life and soul into the work;

use it serves as a bond of sympathy between the out-of-school life in-school life;

Because, in time (perhaps not at once, while inherited prejudices last), it will become a bond of sympathy between the patrons of the school and the work of the school.

We assume that a rural school, to be a true *rural* school, must take tone and color from rural surroundings, and must contribute directly to the enrichment and inspiration of rural life. We believe that this will aid in giving meaning and attractiveness to life in the country.

We shall certainly be met with the criticism that the suggested work is impracticable, that the teachers cannot carry it out. This is far too true, but not wholly true. A success here and there will be a center of education, and from such beginnings, even though they may be small and scattered, the good work may grow. It must start somewhere and somehow, or must have many little starts in many places and in many forms. This little appendix does not hope to be anything but a passing contribution to an evolution that must be long and doubtless slow. The gravest difficulty lies in the defective education of our teachers. To remove this we would urge every normal school to give elaborate courses in the lines here suggested, and to recognize in other ways that the rural school furnishes a distinct problem that must be solved in its own way. It may be that the establishment of rural normal schools is the mode of solution. We would urge agricultural colleges to give short courses on rural science for the special benefit of country teachers, and to educate the people, through their institutes and by other means, to appreciate and to require the adaptation of the rural schools to rural needs. We would urge upon the agricultural colleges the adaptation and publication of matter on rural science and rural economy suitable for educational uses.

I. STUDIES UPON THE SURROUNDING LANDSCAPE.

These should be found helpful (1) as a foundation for geography; (2) as a basis for imagining the aspects of other regions which must be studied through maps, descriptions, etc.; (3) as good material for oral and written descriptions, and hence as a basis for language work; (4) as a means for the culture of the sense of the beautiful, thus furnishing a rational basis for modeling, painting and drawing; (5) as a mode of teaching the significance of things usually regarded as meaningless; (6) as an unconscious introduction to geological processes, and (7) as an aid to understanding many matters of agricultural interest.

1. *Surface Features, their Nature, Origin and Meaning.*—Let there be a general study of the landscape of the neighborhood and a series of talks upon it for the purpose of gaining a true conception of what a landscape really is, and of laying the ground-work for comparisons with other parts of the face of the earth. The children should gain a vivid and definite idea of the nature of their own landscape as a type; if it be plain, whether it be very plain, or but partially so; if undulatory, whether it be gently or strongly undulatory; if hilly, whether gently or roughly hilly; if mountainous, whether of the rounded, the rugged or the grand type.

From the general survey of the landscape descend to its larger elements.

Note and plot the hills and valleys of the neighborhood, first taking up those near and then reaching out farther and farther, so that there shall be a gradual passage from those that are familiar to those that are only occasionally or distantly seen. From these it will be a relatively easy step to

those which must be wholly imagined. Thus the child is led out easily and naturally from his own environment to the general geography of the earth. In carrying this out, walks and occasionally more considerable excursions will introduce the idea of travel and of the methods by which geography is made; and, if verbal and written descriptions, sketches and maps are required, the children are started right in their geographical work by being made young geographers themselves in a limited sense. Seeing and learning thus just what geography is, experiencing for themselves just how geography is constructed, they can use their text-books intelligently and appreciatively.

From the general features descend to particulars. Note the way hills and valleys are related to each other. Are the valleys put in among the hills in any regular order or not? As early as it may seem prudent raise the question of the origin of the hills and valleys, but do not be too hasty about answering it. Let the children gradually work it out. Were the hills built up, or were the valleys cut out? Let them ponder upon this question and see if they do not find the answer to it in the hills and valleys themselves. In leading up to this question, direct the children's observation to what is actually taking place.

2. *The Study of Streams.*—Lead the children to observe just how streams flow, how the current plunges into one bank and then is turned about and plunges into the other bank; how it cuts back the bank where it strikes it; how it digs down into the bottom in certain places; how it heaps up material in other places, etc. As they observe, lead them to reason upon what they see and apply it to the study of maps. They will readily come to understand how the bends are made longer and why a stream meanders. They will thus be led to see the meaning of the tortuous courses of streams. Induce the children also to note the work of temporary streams (e g, after showers) along the roadsides, in the valleys, and on the slopes of the fields. Have them notice the wash from the surface of the land, and thus lead on to the work of water transportation. Lead them to note that this matter lodges elsewhere, and thus approach to the work of deposit. By seeing when and how this wash lodges they will understand the modes of deposition; the formation of deltas, and the building of bars and spits in the streams, the formation of "bottoms," etc.

To approach the origin and maintenance of streams, direct the children to observe what takes place after a rain; if light or slow, that all water goes into the ground; if heavy and rapid, that some goes into the ground, but much runs away. The latter makes surface streams, but they don't last. Follow the water that goes into the ground. Direct attention to underground water as shown by wells, and connect this with the rain that soaks into the ground.

3. *The Study of Soils.*—Incite the children to carefully examine the soil to see how it is made up. Have them wash some of it so as to separate the fine material from the coarse. Direct attention to the natural assorting done by water in the gullies, on the slopes, and in the valleys, and how, on the other hand, fine mud is laid down in the "bottoms" and elsewhere, and thus lead them to see how soils become coarser or finer according to conditions. In most places it will be easy to find pieces or beds of rock partly decayed, and to show that this rotted rock is much the same as soil.

From this they may be led on to understand that soil is usually but decayed rock. This will be easily accomplished in regions where the rock lies but little below the soil and the latter graduates down into decaying rock, showing the stages of the process. Induce them to note how the leaves, grass, etc., decay and turn black, and thus lead them on to see that the dark part of the soil comes chiefly from the decay of vegetation. Induce the children to observe the different qualities of soils in different situations—the soils in the valleys, on the slopes and on the hilltops—and lead them to see how the wash of the surface affects the soil; also how the vegetation affects the soil; and how the soil affects the vegetation.

Starting again with decay of rock, lead the children to see that some parts of the rocks do not decay readily, and hence bits are left, and that these are washed about and form grains of sand or pebbles. Let them observe these and see that some are well-rounded and some are angular, according to the amount of wear, and thus the origin and meaning of sand or pebbles will become evident. The rolling action of brooks and rivers, and of lake and seashores will be manifest. With a thermometer, interesting experiments on the temperature of soils when wet and dry, when hard and when mellow, when stirred and unstirred, etc., can be made.

II. APPLICATIONS OF LANDSCAPE STUDIES.

The study of the features of the landscape may be followed by a study of their influence on human affairs, and on the distribution of plants and animals. The following are some of the lines along which this may be carried out:

1. *The Location of Homes.*—Relative merits of different situations, such as summits, slopes, valleys, etc.; of different exposures, as southerly, northerly, etc.; of different relations to woods, openings, outlooks, etc.; of relations to springs, streams, and other bodies of water; of access to highways or to the several parts of the farm, and the bearing of the surface features on such communications. Do the sites of the later dwellings differ from the earlier? Are there discernible reasons for change? What determined the selection of the material of the first generation of houses? Does the material change with successive generations, and if so, why?

2. *The Location of Roads.*—How far are they influenced by surface features? How far by other considerations? Distinguish wise and unwise locations. What is the effect of wash, drainage, etc.? What changes of location or of method of maintenance may be recommended?

3. *Location of Adjacent Towns and Villages.*—Study the reasons for their particular situations. What bearing had natural means of transportation, roadway crossings, river fords or bridges, special agricultural or mineral resources, mill sites and like features upon their location? Do the dates of their founding, the rates of their growth and other features of their history show wisdom or unwisdom in their location? Note the bearings of their location on the interests of the surrounding country.

4. *Development of the Region as Affected by its Environment.*—Study the nature of adjacent manufactories and the reason for their location. What class was first developed, what later, what changes have taken place? Has there been increase or decline, and what is its meaning? What is their importance and the value of their products? How do they affect the rural interests? What sources of power are used and what remain still unused?

the favorable and unfavorable features in the physical conformation; presence of mines, quarries, the facilities for transportation by road, streams, canals, railways, etc., and their bearing upon the development of the region.

Social and Civil Life of the People as Affected by Surrounding Physical Features.—Are the physical surroundings favorable to social gatherings and social life? Do the surface features lead to sparseness of dwellings, about and difficult roads, or the opposite? Do they make the earning of living easy and give time for social intercourse, for education, etc.? Do they affect the character of the people, etc.?

The Distribution of Vegetation as Influenced by Surface Features.—Note the timbered, prairie, marsh, and "bottom" areas. Note the effects of elevation, drainage, soils, etc., upon these. How do the physical conditions affect the roots, stems, leaves, and general forms of plants? Note the distribution of different areas to different crops; also the adaptation of the land to different kinds of industry, e. g., grazing, grain raising, etc. Note the changes in vegetation and compare the original with the present condition. Discuss the removal of forests. Where was timber first found, and what timber? Where is it now reserved and why? Note the earlier and the later uses of timber supply, and the variation of prices of timber.

III. THE STUDY OF ATMOSPHERIC PHENOMENA.

It is urged that the teachers secure from the nearest weather bureau copies of the daily weather maps, and copies of the monthly summaries of the weather and crop conditions of the United States. A careful study of these maps and summaries, *supplementing the pupil's own daily observations*, will form a good basis for other geographic study. The data furnished by the weather bureau are particularly valuable for several reasons: (1) They are collected by trained observers; (2) the stations are so situated as to fairly represent the whole country; (3) observations are daily and regularly made every day at all stations; (4) the various meteorological conditions are automatically recorded by instruments of precision, insuring great accuracy of detail; (5) the various data are appropriately represented daily upon one map which, thus, day by day presents a picture of the climatic and crop conditions of the whole country.

This means the pupils will be much interested in working out the amounts of rainfall, cloudiness, and sunshine; also the average and extremes of temperature found in the areas and belts devoted to the crops, as wheat, corn, oats, tobacco, cotton and sugar cane. The relative amounts of rain, cloudiness, and sunshine for the seasons may be determined. The incidents of the season in the localities where the pupils live frequently afford excellent opportunity for forming a picture of localities far removed from their own. Thus a study of the character of rain and the clouds in winter gives a basis for picturing arctic regions, the same study in summer an equally sound basis for picturing tropical regions.

IV. THE STUDY OF PLANT LIFE.

In the same manner, the plants of the region may be treated. The purpose, as before, is not so much to learn about plants as to come into actual

intellectual contact with them by observation, interest, sympathy and appreciation. Not only should the plants be observed in all their parts and functions, but their history, mode of propagation, preferences for soil, topographic situations, exposures, etc., should be studied. The association of plants with one another—"plant societies"—are especially interesting and profitable for study. The cultivated as well as the native plants should be included, and the reasons for cultivating some plants and neglecting or warring against others afford large possibilities of interest. As farming is essentially plant culture, the vital relations of such studies are evident, if carried out on the right lines. The old-fashioned botany, the grinding out of the Latin names by an "Analytical Key," is not at all the thing here urged, but direct inquiry into the nature, life, habits, functions, associations, and services of plants.

To give a more concrete idea of what we have in mind, the following is offered as an illustration. It is not set up as a model. There are many ways of reaching like results:

1. *Growth from the Seed*.—With several seeds (beans, for example) in the hands of each pupil, invite a careful inspection of their surfaces, as a first step. Write upon the board a list of things observed, *e. g.*, (1) stem scar (hilum), (2) small dot on one side of hilum where pollen tube entered to fertilize the seed (micropyle), (3) ridge on side of hilum opposite from micropyle (radicle), (4) one end of bean has different slope from the other, (5) a light line or ridge extending longitudinally around the seed, etc. Request pupils to bring other varieties of beans, and see how many of the observed points are common to them all. As a training in the exact use of words in oral expression require the pupils to describe precisely what has been observed. As a training in written language require the pupils to write out what has been seen. This will react to *intensify* the seeing.

To introduce the quantitative element, let a pint cup, or a straight-sided bottle, or a glass be exactly half-filled with beans, and mark the surface of the beans with a string or rubber band. Now fill the vessel with water and put in a warm place for twenty-four hours. Set some pupil to watch the first stages of change, and charge him to be able to state the next day just what they were. On the next day measure the amount of change in volume. What has caused this change? If the water put in was first accurately measured or weighed (and every country school should have means of measuring and weighing), pour out what remains and measure it. Compute the difference. Compare the loss of the water with the increase of the beans. What has become of the water? By what means have the beans grown? Here are the first steps of growth.

Distribute the swollen beans among the pupils, and let them again look for the points observed in the dry bean. Have any disappeared? Have others appeared? Have any changed in character? Let the skin be removed. What features previously noted are removed with it? Do you now see an explanation of any features noted on the outside? Carefully note the two seed leaves (cotyledons), the radicle, and the now very evident first two leaves. Study the pea, pumpkin seed and corn in the same manner.

When these tests have sufficiently advanced, urge the boys and girls, to request permission to test the germinatory power of the seeds which their parents expect to plant in the spring. (This seed study is best done from

ary to April.) Place 100 seeds of a given kind under the conditions bed, and note how many sprout in three, four, five, etc., days. All should be tested before planting, and this is practical work which, if done, will be appreciated by parents as being immediately useful as instructive and disciplinary.

Following essentially the same lines the animal life may be treated. Here a new and important factor enters, conscious life, and this affords a most fertile field for educating the sympathies and moral sentiments of the child. Nothing so contributes to a real and vital (not merely sentimental) sympathy with living things other than ourselves as a careful study of their lives and habits. The child comes to see the world as they are, and to appreciate and sympathize with them in their efforts to work out the purposes of their lives. And even if these purposes strike across the child's interests, the sympathy will not be entirely absent and cruelty will become more and more rare as sympathetic education progresses. The isolation of the sympathies finds little space in the formal school program, and hence the special value of utilizing the opportunity here afforded.

There are several other topics which may be treated in like manner, as the application of geometry in its application to land measurements, etc., various phases of natural science as applied to rural affairs, the social and civic aspect of rural life, etc.

I respectfully submit the foregoing suggestions, fully conscious of their limitations, in the hope that some little helpfulness may be found in them.

TRANSPORTATION OF PUPILS.

The declining population of many towns and counties, and even larger ones, affects the rural schools very unfavorably.

Hon. C. R. Skinner, state superintendent of public instruction of the State of New York, thus forcibly urges the need of consolidation in the State of that state:

In 1860 the school population of the state outside of its cities was 1,146,000. At the close of the school year of 1895 the school population of the state outside of its cities and villages containing upwards of 10,000 people was 829,146, a decrease of 285,286, or upwards of 31 per cent, while the number of school districts in 1860 was 11,358. While the number of school children has decreased during that time nearly one-third, there has been practically no decrease in the number of rural districts. It needs no argument to show that the antiquated school district system, which served the people so well in 1860, has outgrown its usefulness, and that, if the State of New York desires to keep pace with adjoining states in the advancement of educational interests, some new system must be devised.

The township system, or some unit larger than the present system, in my judgment, is the only solution of the difficulty, and until the state shall adopt that system its rural schools will continue to decline in efficiency. There is, in my opinion, no better school in America than the free school and village school of our state, but the results there achieved cannot possibly be achieved in the weak rural districts, where the average attendance is less than twenty pupils, and, as shown above, in

nearly 3,000 districts less than ten. The ambitions and rivalries of the students—incentives to greater exertion on the part of the pupils—which prevailed thirty-five years ago in these country districts no longer exist. The school is lifeless, cannot be graded, there is little enthusiasm among the students, and that activity and earnestness which come from numbers are entirely lacking.” (Report for 1894–95, pp. x, xi)

II. The arguments for the reform have been luminously stated by Mr. A. W. Edson, one of the Massachusetts state agents, as follows:

Consolidation and Transportation.—There is a decided tendency on the part of intelligent and progressive communities to close the small schools in remote districts, and to transport children to the graded schools of the villages, where better classification, better grading and better teaching are the rule. This is done not so much from an economic standpoint as because of the firm conviction that the children receive greater educational advantages there than in the small, ungraded schools.

The number of children in the back districts is small, and growing less every year. With few children and small classes there can be but little enthusiasm and progress.

The leading arguments in favor of the movement are:

1. It permits a better grading of the schools and classification of pupils. Consolidation allows pupils to be placed where they can work to the best advantage, the various subjects of study to be wisely selected and correlated, and more time to be given to recitation.

2. It affords an opportunity for thorough work in special branches, such as drawing, music and nature study. It also allows an enrichment in other lines.

3. It opens the doors to more weeks of schooling and to schools of a higher grade. The people in villages almost invariably lengthen the school year and support a high school for advanced pupils.

4. It insures the employment and retention of better teachers. Teachers in small, ungraded schools are usually of limited education, training or experience, or are past the age of competition. The salaries paid in cities and villages allow a wide range in the selection of teachers.

5. It makes the work of the specialist and supervisor far more effective. Their plans and efforts can all be concentrated into something tangible.

6. It adds the stimulating influences of large classes, with the resulting enthusiasm and generous rivalry. The discipline and training obtained are invaluable.

7. It affords the broader companionship and culture that come from association.

8. It results in a better attendance of pupils, as proved by experience in towns where the plan has been thoroughly tried.

9. It leads to better school buildings, better equipment, a larger supply of books, charts, maps and apparatus. All these naturally follow a concentration of people, wealth and effort, and aid in making good schools. The large expenditure implied in these better appointments is wise economy, for the cost per pupil is really much less than the cost in small and widely separated schools.

10. And, again, it quickens public interest in the schools. Pride in the quality of the work done secures a greater sympathy and better fellowship throughout the town.

Edson reports that the following objections have been made in Massachusetts:

Depreciation of property; decreased valuation of farms in districts where schools are closed.

Dislike to send young children to school far from home, away from oversight of parents, and to provide a cold lunch for them rather than a dinner.

Danger to health and morals; children obliged to travel too far in bad stormy weather; obliged to walk a portion of the way to meet the conveyance and then to ride to school in damp clothing and with wet feet; unsuitable conveyance and uncertain driver; association with so many children of various ages and conditions; lack of proper oversight during the noon hour. Insufficient and unsuitable clothing; expense to parents of properly clothing their children.

Difficulty of securing a proper conveyance on reasonable terms; or, if parent is allowed compensation, of agreeing upon terms satisfactory to all parties, parents and town officials.

Local jealousy: an acknowledgment that some other section of the town has greater advantages and is outstripping any other locality.

Natural proneness of some people to object to the removal of any old landmark, or to any innovation, however worthy the measure or how well received elsewhere.

To these objections Mr. Edson, who is one of the most competent of school officials, replies:

The first one is more imaginary than real, for any level-headed man who considers the children to be educated will place a higher value on the quality of the education and the school spirit in the community than upon the number and facilities of the schools. Experience has demonstrated the fact that towns in towns committed to this plan have appreciated rather than depreciated in value.

The second and third objections are the most serious. It behooves school authorities to see that the danger is reduced to a minimum. Suitable conveyances, covered, should be provided, and competent, careful drivers selected. No risks should be taken. During the noon hour some teacher should remain with the children who carry luncheon.

The fourth, fifth, and sixth objections have no great weight. The last has great influence with those people who choose to live, move, and stay as their ancestors, on the theory that this is the last generation, and that any special efforts at improvement are just so much more than is otherwise necessary.

The experiment in consolidation now in progress in northeastern Massachusetts of such interest and promise as to warrant extracts from the annual reports for 1895-96 of the two superintendents who have been most prominent in the work. This recent movement may have an interest for some that earlier movements would not possess.

Extracts from the report of Mr. F. E. Morrison, superintendent of schools, Ashtabula county:

The new school system, which is known as the Kingsville system of consolidation, has been formulated and introduced with marked success.

By this system the pupils of the subdistricts are given the same advantage for obtaining an education as the village pupils, and this result has

been obtained without working any disadvantage to the village pupils, for we have been enabled to open a new room and supply another teacher in the village schools, thus reducing the number of grades in each room and giving all the pupils better school advantages. We have sufficient room yet for several more pupils without crowding the rooms.

"The pupils of the subdistricts have not only been given the advantage of more extended associations and larger classes with which to recite, but they have also the advantages of a school where the teacher has fewer recitations and can give more time and attention to each recitation; thus the pupil's progress is much more rapid than is possible in a school where there are three times as many classes and one-sixth the number of pupils. It is a fact that the work of the teacher depends more upon the number of classes to recite than the number of pupils in attendance. It is a pleasure indeed to note that the attendance in the subdistricts that have availed themselves of the new system has increased from 50 to 150 per cent in some cases, and a larger increase in all cases; the daily attendance in the same subdistricts has increased from 50 to 60 per cent to 90 or 95 per cent, thus increasing greatly the returns from the school fund invested. This has been accomplished at a saving of more than \$1,000 to the taxpayers in the three years.

"The board of education and citizens of Kingsville are to be congratulated for their progressive and energetic spirit in being pioneers in formulating and placing in operating a system of education superior to any in the state of Ohio, and which is to be the system of the future. The board of education has been enabled, under the new school law, to conduct its financial matters by better business methods, buying its supplies in quantities and letting its contracts on competitive bids, and by centralizing the schools, thus saving many needless expenses.

"It should be mentioned that the permanent improvements made by the board of education during the past three years are nearly double the amount made during the preceding three years."

2. Extracts from the report of Mr. J. R. Adams, superintendent of Madison township, Lake county:

"In my report to the board one year ago I called attention to the very low average attendance in some of our schools, the great expense per capita of educating the pupils in those small schools, and to the fact that, on account of the lack of interest and enthusiasm therein, good results could not be obtained. and suggested the plan of consolidation as the proper solution of the difficulties.

"Acting upon my suggestion, the board, having in view only the best interest of the children for whom our schools exist, voted to consolidate three subdistricts at North Madison, No. 16 and No. 3 with No. 12, and also three at Unionville, No. 10 and No. 11 with No. 4, arrangements being made with the school board of Harpersfield township whereby the pupils of subdistrict No. 1, of said township, might attend the school at Unionville upon payment by the board of education of Harpersfield to the board of education of Madison township the sum of \$140 tuition.

"Our school opened with two teachers and with an attendance of 93 pupils. This was certainly more than the number for which we had planned, and was a great surprise to me, for from No. 10, in which subdistrict there had been the previous year an attendance of only 10 pupils,

came 18; from No. 11, in which there had been an attendance of only 18, there came 18, and from the Harpersfield district, in which there was an attendance of 14 pupils, there came 23. The number of pupils enrolled in this school was 107, with an average attendance of 73.

Having tried the new plan for a year, it is no longer an experiment, but an experience, with us; therefore, let us now candidly look at the results. First, I wish you to know what the patrons of the consolidated school think of the plan, and then to give you, as briefly as I can, some of my observations. All the patrons of the school of subdistrict No. 10 of Unionville, and in subdistrict No. 1 of Harpersfield, have signed a paper stating that they are well pleased with the plan and its results, and asking their respective boards to continue the plan another year. While there was no canvass at Unionville, subdistrict No. 4, to ascertain what the patrons there think of the plan, yet, from what I have heard, I am confident they are unanimous in its support. The foregoing represents the number of patrons who send 89 of the 107 pupils to this school. A large majority of the patrons in subdistrict No. 11, who send 18 of the 107 pupils to the school in question, have publicly expressed themselves as being dissatisfied with the plan, and that under it their children have not received the educational advantages which they ought to have received. Further comment is unnecessary.

Following are some of the good results which have come under my personal observation:

A much larger per cent of enumerated pupils enrolled.

No tardiness among the transported pupils.

Irregular attendance reduced, the per cent of attendance of transported pupils from two subdistricts being each 94 per cent, the highest in the township.

Pupils can be better classified and graded.

No wet feet or clothing, nor colds resulting therefrom.

No quarreling, improper language or improper conduct on the way from school.

Pupils under the care of responsible persons from the time they come in the morning until they return at night.

Pupils can have the advantage of better schoolrooms, better ventilation, better ventilated and better supplied with apparatus, etc.

Pupils have the advantage of that interest, enthusiasm, and concentration which large classes always bring.

Better teachers can be employed, hence better schools.

The plan insures more thorough and complete supervision.

It is more economical. Under the new plan the cost of tuition per pupil on the basis of total enrollment has been reduced from \$16 to \$10.48; on a basis of average daily attendance, from \$26.66 to \$16.07. This saving is for the pupils in said subdistricts Nos. 10 and 11.

A trial of this plan of consolidating our schools has satisfied me that it is a step in the direction toward whatever advantages a well-graded, well-classified school of three or four teachers has over a school of one teacher with five to eight grades, and with about as much time for recitation as is needed to properly assign the next lesson."

STATISTICS.

1896-1897.

ABSTRACT [A]—

SCHOOL

REPORTS FOR 1896.

STATISTICS.

PUPILS.					SCHOOLHOUSES.		GENERAL.				
Between ages of 5 and 21.		Enrolled in public schools.	Total average attendance.	Av. tuition per mo. per pupil.	Number.	Value.	Value of apparatus.	Volumes in libraries.	Trees set out on grounds and in thrifty condition.	Schoolrooms in which effects of stimulants and narcotics are taught.	
Males.	Females.										
2866	2741	4710	2822	\$1.88	145	\$8578	\$1727	597	2073	163	
2639	2403	3975	2525	1.68	111	72768	4008	613	194	128	
3299	3067	4526	2751	1.64	181	103586	1205	1288	596	148	
4418	4160	6430	4692	1.26	182	149745	1816	1606	1293	177	
2299	2183	3431	2316	1.95	112	81170	4430	700	525	127	
4142	3860	6465	4281	1.82	127	154105	5843	2060	1841	210	
4758	4630	7024	4561	1.91	149	230635	6532	1113	1821	204	
4052	4614	6856	4342	1.69	157	170745	5485	3660	2060	211	
2584	2494	3926	2399	1.70	112	78685	4988	2879	2045	180	
3286	2963	5049	3401	1.89	146	172085	7145	1876	872	182	
2772	2661	4246	2791	2.06	142	112910	6450	2877	1447	169	
2222	2873	4719	3027	1.96	145	114547	5418	969	1784	170	
3900	3755	4701	3165	1.90	146	121845	5881	1004	514	170	
2708	2517	5410	3529	1.89	145	119565	7007	1254	2580	157	
2769	2617	6407	3965	1.87	154	253825	5174	2502	2168	189	
2222	2117	4765	3225	9.01	145	163258	2049	2868	2397	177	
2797	2642	4988	3404	1.92	145	187780	2484	882	880	187	
2261	2110	4750	3051	9.07	144	174900	4514	3007	1223	173	
2077	2045	4498	2631	1.70	119	81650	5477	1184	2858	122	
4670	1821	3675	2311	2.05	107	78945	2822	219	1350	125	
7419	1821	3208	2022	2.42	120	92487	1111	532	795	147	
2847	1780	7123	4297	1.70	178	157425	7001	2061	1195	216	
2892	1247	9612	6227	1.84	158	852620	6841	10072	2756	272	
2740	161	5815	3551	2.02	176	126170	11753	2485	2142	199	
2009	251	6346	4066	1.92	158	182104	6812	1275	3465	196	
2122	170	4507	2745	1.24	105	68280	1805	888	1119	119	
6101	206	4910	3090	1.53	124	104005	2050	822	1600	149	
1009	202	4450	2895	1.79	138	116145	4024	534	1008	169	
10042	618	7811	4681	2.03	99	265349	9682	1078	1893	192	
1511	106	1685	1098	2.00	70	52562	4965	132	219	76	
4210	101	9251	5980	1.71	144	480850	10995	4708	2008	287	
2046	122	2975	1290	2.81	75	62250	2539	622	1011	98	
2369	412	6678	4131	1.59	120	128220	5961	1276	2206	214	
2155	200	4880	3031	1.77	122	138675	4677	859	1177	147	
8147	202	3750	2421	2.20	141	102985	5158	681	1677	160	
2429	22	4994	3185	1.81	129	122285	5628	1416	2613	154	
2126	28	4912	3005	1.89	144	96670	2975	1681	1113	157	
2222	23	4125	2495	2.02	128	80005	5446	4718	2226	144	
2022	81	5722	3701	1.73	153	150915	8290	2022	640	186	
4212	23	4785	2920	2.06	142	128100	6299	737	1111	161	
2006	22	2538	2022	2.42	124	104550	6396	485	1493	141	
2429	4	5720	2653	2.01	150	156430	7875	2177	1792	188	
2061	22	7260	4260	1.77	155	158525	8895	2046	2787	197	
2072	22	4520	2725	1.73	107	124965	3408	825	2472	120	
2202	11	3725	2150	1.90	102	69170	2822	111	420	115	
	12	2275	2005	2.15	112	75440	5833	1442	111	125	
	12	2150	2007	2.27	108	89125	4722	124	1610	128	
	11	5320	3441	1.78	141	119471	4122	2576	1842	152	

ABSTRACT [A]

SCHOOL

COUNTIES.	DISTRICTS.			SCHOOLS.			TEACHERS.			
	District townships	Independent districts.	Number of sub-districts.	Ungraded.	Rooms in graded.	Av. duration in months.	Number employed.		Av. monthly compensation.	
							Males.	Females.	Males.	Females.
Jackson.....	14	46	107	138	55	8.1	43	231	39 37	26 72
Jasper.....	17	29	156	179	51	8.0	70	317	37 84	31 90
Jefferson.....	9	28	70	90	30	7.6	53	176	33 88	30 49
Johnson.....	16	48	117	161	55	8.8	64	310	37 25	29 34
Jones.....	9	65	69	129	43	8.2	52	243	39 10	29 96
Keokuk.....	2	115	54	134	63	8.0	96	221	35 52	29 27
Kossuth.....	28	7	186	183	36	7.7	47	243	36 47	32 03
Lee.....	7	65	47	104	108	7.9	55	211	50 59	34 90
Linn.....	11	72	106	171	168	8.1	81	437	37 83	35 11
Louisa.....	9	26	60	84	28	8.0	48	152	36 95	29 70
Lucas.....	4	59	33	90	28	7.5	89	155	37 33	27 33
Lyon.....	10	20	65	121	31	8.1	47	157	37 15	32 71
Madison.....	12	25	103	130	33	7.4	56	226	31 54	29 79
Mahaska.....	9	74	68	137	86	8.2	78	281	36 94	30 97
Marion.....	4	112	22	187	51	7.7	54	226	36 07	26 65
Marshall.....	12	57	92	143	85	8.3	72	278	51 83	39 13
Mills.....	5	62	20	78	37	8.6	29	156	46 53	36 26
Mitchell.....	8	48	53	93	41	7.9	43	160	37 29	29 63
Monona.....	17	14	117	135	30	8.1	58	253	34 66	30 54
Monroe.....	6	48	50	93	25	7.2	44	145	33 87	26 58
Montgomery.....	10	23	85	103	47	8.3	51	206	40 98	32 96
Muscatine.....	11	26	68	85	70	8.6	40	211	47 26	35 23
O'Brien.....	16	6	127	130	41	8.0	53	199	39 14	33 45
Osceola.....	9	3	52	87	13	7.6	41	109	35 89	38 17
Page.....	11	46	82	125	55	8.1	65	213	39 89	34 21
Palo Alto.....	16	4	119	117	27	7.7	49	172	33 05	29 76
Plymouth.....	23	7	158	166	37	8.2	49	256	37 78	33 64
Pocahontas.....	15	13	128	134	23	7.5	49	223	34 83	30 09
Polk.....	13	58	92	140	248	8.6	88	496	54 94	43 39
Pottawattamie.....	25	25	211	243	143	8.7	110	478	52 33	37 31
Poweshiek.....	14	22	117	138	41	8.3	62	249	38 02	32 87
Ringgold.....	12	38	95	125	30	7.6	60	192	31 29	27 90
Sac.....	16	8	130	132	34	8.0	59	225	35 21	30 79
Scott.....	13	27	79	104	119	9.4	66	205	61 86	45 39
Shelby.....	16	9	133	137	32	8.5	104	201	36 27	32 92
Sioux.....	19	14	137	164	57	8.7	64	160	40 52	34 31
Story.....	14	29	115	133	56	7.7	70	254	37 44	26 45
Tama.....	12	78	98	163	58	8.1	72	296	39 88	31 97
Taylor.....	13	28	100	119	43	8.1	78	232	34 78	31 61
Union.....	10	23	89	108	52	8.5	32	249	43 19	29 89
Van Buren.....	8	48	68	113	35	7.2	60	168	35 74	26 34
Wapello.....	8	48	52	105	98	8.5	54	244	40 41	34 77
Warren.....	6	89	51	132	34	7.6	66	233	34 07	27 63
Washington.....	6	85	49	125	42	7.8	54	253	36 93	28 26
Wayne.....	13	33	89	116	32	7.3	95	170	30 69	24 86
Webster.....	18	42	134	174	53	7.9	45	285	37 43	33 29
Winnebago.....	11	5	76	85	18	6.8	29	107	32 04	30 18
Winneshiek.....	14	46	96	130	42	7.2	68	209	34 27	26 96
Woodbury.....	17	36	131	176	199	8.7	78	458	45 43	43 32
Worth.....	12	4	84	84	15	7.2	45	118	31 06	28 65
Wright.....	16	6	122	128	40	7.9	57	221	37 55	31 96
Totals.....	1189	3633	9265	12526	5002	8.0	5614	22507	38 28	32 23

REPORTS FOR 1896 -CONTINUED.

STATISTICS.

ABSTRACT [B]—REPORTS FOR 1896.

SCHOOL FINANCES, 1896.

COUNTIES.	TEACHERS' FUND.							
	DEBIT.				Total debit or credit.	CREDIT.		
	On hand at last report.	Received from district tax.				Paid teachers.		
Adair.....	\$ 20601 40	\$ 36170 23	\$ 5710 18	\$ 1158 67	\$ 63640 58	\$ 48156 84	\$ 908 01	\$ 20275 73
Adams.....	11932 42	23639 81	4668 04	525 01	46795 28	33382 75	163 47	12402 06
Allamakee.....	10464 89	24705 07	5622 99	799 77	41582 31	31949 84	182 14	9450 23
Appanoose.....	16483 62	39073 98	9695 69	646 07	66048 84	42550 84	1245 63	21940 30
Audubon.....	11785 75	32865 42	4477 98	741 54	49220 69	33930 77	43 39	12906 53
Benton.....	29722 15	49775 95	11198 09	2069 42	93735 63	63707 52	756 04	29208 07
Black Hawk.....	22801 65	57546 84	10980 96	257 50	99086 95	71227 25	97 11	27703 59
Boone.....	23508 77	48395 40	9251 43	453 52	83518 13	57323 53	181 98	96213 61
Bremer.....	16214 84	26085 09	6387 55	1024 81	49372 30	31748 34	365 84	17859 12
Buchanan.....	22825 71	41185 91	7916 64	637 48	73305 74	51426 36	171 23	21704 10
Buena Vista.....	20730 83	40430 91	5556 20	777 24	67454 88	47096 68	370 50	20017 60
Butler.....	21104 19	39846 50	6436 54	2350 68	69769 91	46473 83	352 20	23143 66
Calhoun.....	20495 89	46330 93	6350 03	683 84	73865 49	46325 83	552 86	27088 89
Carroll.....	18288 59	49429 10	6596 15	914 23	75821 16	52631 06	1411 44	21772 02
Cass.....	35353 69	53742 71	10442 95	2683 20	102422 54	64799 65	71 83	37551 07
Cedar.....	29019 84	41781 94	10774 31	1910 03	63487 12	52544 29	486 88	20415 95
Cerro Gordo.....	23512 44	46487 53	7031 25	7818 64	84979 91	62214 64	822 80	31872 97
Cherokee.....	21712 35	43530 96	6715 25	1684 72	73844 34	51764 78	1181 56	20368 04
Chickasaw.....	11288 67	22170 79	5256 47	833 16	46339 09	34495 78	213 23	11660 06
Clarke.....	9739 63	22181 78	4934 48	711 79	37563 63	29020 34	58 69	10524 61
Clay.....	18167 70	32398 61	4234 94	409 18	50820 41	36490 00	83 17	14247 24
Clayton.....	19806 29	48743 33	10047 00	1465 07	80061 62	55611 01	772 24	23848 41
Clinton.....	27425 25	80911 85	17328 31	97 8 31	145333 82	93492 79	8389 69	37501 24
Crawford.....	24455 65	53384 22	8106 82	913 00	86759 46	60206 04	157 09	26526 23
Dallas.....	17357 17	60347 37	9061 68	1319 72	82126 94	62522 63	1624 58	29079 73
Davis.....	2082 91	17338 79	4879 19	847 67	81648 76	23192 37	396 39	8040 00
Decatur.....	14467 61	50175 48	5427 06	1250 49	51220 81	34570 43	130 23	16620 09
Delaware.....	23072 39	35740 60	7577 17	971 31	64341 47	47041 05	100 43	2,219 99
Des Moines.....	1,207 04	67206 02	12702 04	9294 84	102109 94	83153 85	224 23	16031 66
Dickinson.....	5940 17	18300 94	2024 10	1083 49	28148 67	20039 88	1378 69	6730 10
Dubuque.....	15222 88	71486 69	19636 10	843 71	107838 58	91707 07	167 11	15944 40
Emmet.....	5016 19	17450 10	4420 96	393 91	27281 16	23459 83	66 67	4744 66
Fayette.....	22154 45	42843 24	9438 59	784 55	75219 83	50530 61	396 67	24290 53
Floyd.....	11168 03	38280 43	8047 60	3229 03	60750 09	43990 21	2308 04	14251 74
Franklin.....	19609 04	34214 18	5569 74	993 13	64345 13	41591 17	108 87	22391 09
Fremont.....	33981 33	38034 22	7266 93	1163 18	80467 68	48945 24	604 43	30857 25
Greene.....	22623 58	42328 66	7393 72	531 89	73075 05	44844 00	137 48	29093 57
Grundy.....	21243 06	34610 16	6060 30	638 76	66542 27	41438 12	131 67	24977 58
Guthrie.....	23703 29	48674 17	7437 98	215 62	80031 06	61175 42	409 61	26449 03
Hamilton.....	18954 84	39296 20	7172 79	1111 11	63159 95	46222 11	409 19	21528 65
Hancock.....	12131 35	33366 21	4600 73	574 44	50672 73	36766 58	110 19	13795 96
Hardin.....	39299 20	54042 97	5454 82	1794 88	97891 37	68865 61	602 80	38123 96
Harrison.....	39450 10	58446 55	10928 80	1137 32	110000 77	64979 71	217 02	44874 04
Henry.....	17445 74	27569 83	8514 18	874 35	53904 10	37343 34	141 53	16412 23
Howard.....	5863 08	27878 93	3917 08	1544 91	39194 02	31811 24	340 47	7342 31
Humboldt.....	11914 56	30161 98	3940 02	2140 78	46187 34	33586 24	123 76	14428 29
Ia.....	21055 99	31542 08	4878 67	761 71	59023 30	37797 72	337 03	19918 66
Iowa.....	22320 23	40881 21	7328 94	4161 12	74689 55	50891 93	200 49	23337 11

ABSTRACT [B]—REPORTS FOR 1896—CONTINUED.

SCHOOL FINANCES, 1896.

COUNTIES.	TEACHERS' FUND.							
	DEBIT.				Total debit or credit.	CREDIT.		
	On hand at last report.	Received from district tax.	Received from semi-annual apportionment.	Received from other sources.		Paid teachers.	Paid for other purposes.	On hand.
Jackson	27782 15	30677 84	8175 84	3230 99	78875 82	50271 08	155 81	28448 93
Jasper	30192 93	55171 55	11914 81	976 27	98255 56	66155 74	141 49	31958 83
Jefferson	11233 23	22797 87	7823 77	1289 67	43144 54	29865 19	210 12	13069 23
Johnson	19436 71	53432 38	6331 21	1433 27	80633 57	61471 49	1275 02	17887 06
Jones	22925 06	87348 24	10659 62	1637 29	72670 21	49655 87	1073 17	22841 17
Keokuk	32512 07	39092 94	11522 56	2058 44	85186 01	52493 65	319 83	32372 53
Kossuth	20686 00	52281 24	7608 83	141 50	80717 67	57969 92	459 83	22288 42
Lee	16069 41	52563 22	15272 04	1139 72	85064 39	66570 38	231 69	15262 32
Linn	34646 85	94912 66	18704 39	5935 52	154199 42	115288 42	967 75	37943 25
Louisa	11942 51	24736 13	5935 55	1271 46	43885 65	30658 75	743 98	12482 92
Lucas	18389 13	22072 39	6257 95	483 50	47202 97	27919 97	445 29	18837 71
Lyon	12093 97	89830 78	5933 74	1632 98	59791 47	43527 61	661 04	15603 82
Madison	17188 93	33018 95	7533 17	421 69	58162 74	40852 48	41 86	17268 40
Mahaska	32152 64	53008 32	11935 60	1724 92	98321 48	65228 08	756 10	32837 30
Marion	21373 69	39963 27	11883 67	1384 50	74604 23	46204 29	917 50	27482 44
Marshall	57042 99	74362 32	10034 91	4810 54	146250 76	84419 20	879 43	60952 18
Mills	27343 88	31980 53	6781 60	1049 97	67155 98	39432 76	588 04	27135 18
Mitchell	13211 53	30066 29	5620 26	1165 02	49063 10	36114 94	550 11	12398 05
Monona	20789 69	39508 17	5891 00	1008 94	67147 80	45847 08	378 13	21442 59
Monroe	10267 89	22377 81	5059 04	681 83	38386 07	26736 35	326 94	11322 78
Montgomery	18010 25	41787 51	7716 13	723 73	68239 62	49545 12	95 00	18599 50
Muscatine	18289 58	51032 10	11478 09	1781 17	82580 94	62099 08	541 07	19040 79
O'Brien	19649 93	46643 96	5035 42	1099 60	72428 81	50919 92	253 92	21254 97
Osceola	9110 76	25700 10	2444 23	2033 03	39288 12	28390 20	138 21	10759 71
Page	24898 25	48597 66	9121 20	1142 58	63769 79	56927 84	584 50	26247 45
Palo Alto	10355 24	29704 64	444 30	1630 76	45934 94	35872 90	405 60	10156 44
Plymouth	20731 08	54914 17	8632 73	1457 74	85735 72	62421 84	89 45	23224 43
Pocahontas	13705 61	37215 56	4935 71	72 06	55928 93	39130 63	26 01	16772 29
Polk	89278 17	175057 64	30538 99	1171 70	296046 50	198160 62	3407 58	94478 30
Pottawattamie	48356 57	127133 15	19770 20	4365 51	199625 43	140762 66	660 40	58202 17
Poweshiek	19680 32	49008 41	8430 23	967 16	78081 17	66872 11	458 85	20750 21
Ringgold	16258 60	50603 79	6388 82	672 42	53923 63	36072 37	65 75	17785 51
Sac	27572 18	43729 88	6452 59	1098 50	78854 15	45292 15	313 86	33248 14
Scott	33066 17	99314 44	17051 62	2202 32	151634 55	117255 87	394 61	33984 07
Shelby	27038 38	47523 69	6913 39	1795 81	83271 27	54557 45	298 73	28415 09
Sioux	29083 60	60930 94	6711 20	672 10	97397 84	69686 48	1212 82	26498 51
Story	24455 24	48470 66	8917 66	1184 88	80028 44	50214 77	779 81	32023 86
Tama	36739 84	52978 67	9492 30	2203 65	101414 46	64018 85	724 26	36671 35
Taylor	19193 01	37647 67	8480 82	1029 14	66350 64	46617 07	280 38	19453 19
Union	14234 68	37082 22	7797 14	1868 12	60982 16	49110 20	2 25	11869 71
Van Buren	24316 85	21903 74	6039 13	1506 30	53766 62	32050 45	296 11	21419 46
Wapello	22516 43	60549 15	12518 06	636 11	96219 75	72126 84	764 73	23828 18
Warren	20649 92	31709 86	10283 29	605 09	63548 16	39343 50	217 87	23986 79
Washington	22439 82	33388 05	10281 61	2106 21	68215 69	43019 00	2717 23	22479 46
Wayne	21812 24	28372 11	5464 12	1707 27	57355 74	83331 72	776 95	22247 07
Webster	28636 67	47355 18	9185 88	1065 23	86242 96	57444 76	5779 56	23018 62
Winnebago	7550 74	22372 70	4024 44	664 29	34612 17	23455 29	1600 00	9556 88
Winneshiek	15105 98	32574 40	9539 56	855 90	58075 84	40437 29	407 06	17231 47
Woodbury	83815 15	125288 27	25031 68	627 84	234762 94	148366 43	622 58	85773 98
Worth	5961 76	19829 29	3178 81	564 84	20534 70	27589 82	.....	6944 88
Wright	23429 40	45892 64	5792 61	294 03	75408 68	46882 98	356 93	28168 77
Totals	2194121 33	4436426 63	813631 54	154729 30	7618906 80	5205287 19	65515 84	2348105 77

ABSTRACT [B]—

SCHOOL

No.	SCHOOLHOUSE FUND.							
	DEBIT.			Total debit or credit.	CREDIT.			
	On hand at last report.	Received from district tax.	Received from other sources.		Paid for school-houses and sites.	Paid on bonds and interest.	Paid for libraries and apparatus.	Paid for other purposes.
.....	\$ 5141 05	\$ 4008 86	\$ 2050 80	\$ 14195 56	\$ 9853 11	\$ 2804 25	.....	\$ 1891 70
.....	2878 49	3138 20	61 52	7073 21	1656 13	3789 46	\$ 196 07	226 89
.....	628 89	6126 65	4968 08	11798 67	5410 18	3530 12	.....	1285 41
.....	2250 29	11244 00	3424 02	17088 41	1465 11	2261 29	.....	10223 62
.....	219 89	2046 79	1286 86	4602 34	2877 27	600 00	.....	287 53
.....	2536 86	5568 29	1261 49	9756 56	2789 45	2053 76	39 09	962 27
.....	2178 52	11200 17	14692 00	22970 70	5336 48	12570 90	44 90	986 20
.....	2705 66	11275 10	2212 63	16198 29	2974 74	3166 16	122 85	1425 67
.....	1222 74	2228 08	24 04	3592 86	501 26	1504 22	156 20	125 41
.....	2642 00	3463 78	5682 23	13187 09	6462 61	1847 17	676 00	686 57
.....	2666 07	2697 16	972 96	14446 21	5489 12	4572 56	71 26	2122 06
.....	1299 71	4489 05	4247 50	10216 26	6180 80	1152 29	.....	682 89
.....	2067 97	6067 64	319 11	15944 72	10572 54	2421 22	.....	651 24
.....	2667 64	2626 47	2924 67	12140 78	2973 19	2216 46	.....	1420 12
.....	4970 19	9778 31	2167 06	16915 56	3108 66	8299 49	85 18	1226 51
.....	1225 23	2116 25	10626 67	14961 43	10998 84	1010 62	106 60	1599 79
.....	4791 97	8617 50	8755 96	17165 43	7993 80	2622 50	12 70	1454 78
.....	15541 06	3622 86	6906 15	21164 05	22396 29	5426 17	126 60	1548 10
.....	804 72	2412 24	881 69	5044 80	2066 62	908 75	.....	728 08
.....	2652 02	2494 95	111 66	5258 23	566 64	1026 26	.....	461 12
.....	984 04	7799 78	265 95	9078 77	2169 79	2573 56	244 66	2221 14
.....	4266 62	2261 05	1297 27	6127 04	6455 67	1803 40	127 25	242 26
.....	2420 10	14220 22	239 11	18519 02	5141 79	4622 28	.....	2562 75
.....	2652 77	7551 70	212 76	10412 22	2127 45	2904 75	285 43	1568 24
.....	2915 88	6262 26	1772 62	11972 47	2421 29	2422 69	76 77	1546 52
.....	427 96	1650 27	29 66	2101 61	56 79	978 89	.....	284 14
.....	2569 78	2701 74	4264 89	12156 61	4624 22	4611 96	200 03	2970 10
.....	1577 24	8032 72	465 89	7072 65	642 70	2920 46	21 80	771 02
.....	602 25	6777 23	20270 26	29660 03	12717 00	8006 42	.....	788 67
.....	2697 17	4279 11	407 76	7984 08	4686 25	631 25	124 95	774 16
.....	1972 27	14126 75	2520 25	19720 07	4264 07	12223 55	20 64	682 27
.....	2157 88	7722 89	155 72	10086 15	6195 65	1263 72	21 70	455 26
.....	1402 88	4514 07	184 44	6101 23	1275 42	1728 44	.....	656 42
.....	2612 80	2264 66	24 12	6910 41	221 55	4266 17	.....	1022 74
.....	2502 86	6118 04	1122 80	12801 52	2724 26	4679 19	.....	510 97
.....	4070 42	5247 11	864 89	10089 42	2425 25	2022 22	122 00	462 16
.....	2266 86	2591 89	72 25	6922 10	1080 58	2024 75	14 46	60 12
.....	2002 72	2166 07	1254 67	5326 36	2648 20	713 05	.....	245 22
.....	2650 96	6442 82	12542 64	29496 14	10361 90	5417 20	.....	2022 51
.....	6641 63	2292 26	1852 11	14418 70	5097 65	4406 25	.....	1222 78
.....	2516 65	12626 68	502 77	17846 25	8066 44	1291 72	289 86	2624 70
.....	2142 10	11246 61	18999 56	23228 46	6518 29	19190 07	6 20	1942 62
.....	2676 00	7922 62	12246 56	24147 17	2690 29	14644 21	.....	2222 62
.....	690 22	6486 20	19 66	7166 28	4868 69	1512 56	.....	222 96
.....	1262 22	5481 69	6006 08	12009 14	6451 75	2229 29	15 00	207 56
.....	1098 01	4641 69	2266 50	8906 10	2666 26	1274 65	60 61	626 29
.....	2142 80	2152 17	2216 11	6511 08	2689 78	775 45	.....	1707 66
.....	2524 88	6105 00	641 09	10220 89	2362 06	2629 96	96 80	1459 41
.....	6010 12	6828 04	2047 85	11210 05	4426 51	641 00	442 90	2004 44
.....	14148 72	11267 70	626 42	26041 99	16179 19	7772 99	.....	727 14

REPORTS FOR 1896—CONTINUED.

FINANCES.

CONTINGENT FUND										
DEBIT.			Total debit or credit.	CREDIT.						
On hand at last report.	Received from district tax.	Received from other sources.		Paid for fuel, rent, repairs, insurance and janitors.	Paid secretaries and treasurers.	Paid for records, dictionaries and apparatus.	Paid for text-books and supplies to be re-sold.	Paid for general supplies.	Paid for other purposes.	On hand.
\$ 4003 46	\$14159 95	\$ 910 68	\$ 19074 09	\$ 9817 93	\$ 1306 71	\$ 310 53	\$ 243 40	\$ 1856 74	\$ 1228 30	\$ 4460 43
1743 20	10170 33	706 03	12618 56	4708 34	1096 45	296 73	382 38	1589 42	1459 72	3085 62
5873 51	8778 89	949 60	15302 00	5865 62	1051 78	154 32	379 42	1205 98	891 17	5750 71
2872 53	16104 83	2595 88	22573 24	18277 32	982 89	200 20	131 15	759 44	1645 57	5573 67
5444 13	12730 77	394 21	18569 11	8054 80	1053 50	716 34	.....	1631 57	831 98	6280 93
9443 25	19282 06	1904 92	30630 23	14846 87	1785 91	280 80	92 60	1700 54	1544 65	10378 86
6287 87	23293 15	923 89	30454 91	15811 97	1605 36	863 11	121 15	2084 81	2451 31	7517 20
4268 72	19608 46	3381 88	27359 05	14636 20	1775 50	1013 26	177 41	1865 67	2930 42	4920 60
4202 89	10016 86	448 85	14818 60	6344 72	1121 05	281 83	18 76	967 33	567 50	5518 42
4593 54	19785 93	4973 81	29152 28	16472 16	1240 84	713 50	113 56	2090 14	2868 17	5853 91
6441 49	15831 24	1574 67	23847 40	9468 77	1220 42	543 89	699 04	2750 55	1601 23	7563 50
8579 04	15707 53	1268 26	25554 83	9940 58	1537 60	597 29	50 63	1324 36	1330 58	10773 79
5476 94	15605 45	2396 99	23479 38	9373 96	1495 18	796 23	536 25	4048 49	779 23	6451 04
5020 23	18077 83	3946 69	27044 25	12111 47	1594 45	526 60	1396 53	1662 60	4224 90	5597 70
10279 90	16879 12	1353 24	28512 26	12817 35	1531 31	457 17	616 71	2782 52	1268 72	9038 43
8044 40	13531 81	1382 15	22957 84	9771 94	1412 57	684 79	176 20	1095 74	3224 11	6592 51
5867 29	21463 35	7900 47	35231 11	16204 41	1179 25	1452 67	87 95	2223 31	7448 67	6574 85
7152 23	17415 20	2159 14	26726 57	10939 76	1654 27	663 19	13 92	2803 98	2078 28	8753 17
3275 40	10453 20	1063 43	14797 03	5823 08	1089 90	490 91	439 13	918 77	2226 84	3808 41
3036 53	10023 07	181 52	13241 12	6729 55	837 10	126 60	.....	829 64	127 52	4590 71
4093 50	12464 83	2513 45	19071 78	7166 44	1082 08	360 17	1194 87	973 53	2784 66	5510 03
6516 74	14923 12	2096 78	23536 64	7866 69	1679 58	417 30	701 73	1506 15	2655 95	8709 24
13105 78	27058 83	3598 04	43763 15	21267 62	2245 65	977 17	150 30	2820 51	4973 12	11427 78
10902 03	18331 33	2306 91	31540 27	11834 93	1710 85	298 44	1380 52	2681 16	1397 41	12236 96
6159 57	21904 53	2019 29	30083 39	12932 79	1590 10	978 05	196 63	3069 17	3073 23	8243 38
1330 36	7719 65	478 75	9528 76	4205 62	916 44	279 02	3 75	509 08	130 30	3485 55
4041 74	7416 56	3061 45	14519 75	5821 88	1054 68	390 72	.....	2071 42	1682 17	3498 88
4907 69	12545 10	960 57	18433 36	7289 69	1184 24	1292 05	211 31	2056 95	1163 80	5235 82
2566 65	31727 06	578 47	33370 18	17063 97	1217 62	744 46	1 02	1911 15	9773 27	3158 69
1316 08	7563 70	284 53	9164 31	3917 91	837 50	569 34	.....	765 28	479 61	2594 67
4598 43	42241 35	1293 60	48183 38	29847 32	2830 97	1127 38	.....	6408 17	1475 58	6423 96
207 18	8194 97	49 26	11051 41	5384 61	492 65	561 87	.....	1293 07	714 37	2605 34
18 75	14082 29	989 34	20390 38	10545 56	1491 85	419 90	50	1140 10	1647 74	5144 73
69 77	15423 87	1656 05	20349 69	8520 92	847 59	1172 08	111 90	860 22	5172 31	3694 68
65 88	14703 30	1054 32	19923 50	9303 93	1505 72	711 44	158 61	1488 21	1366 49	5389 10
68 25	14082 85	6421 27	25807 37	8962 48	1220 69	109 70	14 59	1496 07	8332 56	5622 28
111 72	13491 39	661 04	21064 15	9917 24	1373 33	399 15	557 63	2450 91	934 48	5431 41
72 02	10339 14	1960 11	15371 27	7184 41	1094 50	833 49	80 47	638 77	2376 74	3662 84
83 21	16606 16	2150 07	27885 44	12105 18	1210 37	975 56	175 67	3055 18	1487 47	8376 01
609 71	12018 11	2626 16	20653 98	6081 87	1428 85	235 83	52 00	1356 26	5391 88	6107 29
152 26	14212 90	1370 00	19765 16	8191 40	998 90	1401 96	290 92	1452 86	2070 53	5358 59
613 52	20849 22	1725 51	30588 25	12484 37	1641 00	235 04	172 25	5162 04	2091 87	8811 68
554 66	21895 51	1523 45	31973 62	14146 54	1746 10	896 35	186 46	2840 46	2933 17	9254 54
853 67	10096 79	1600 82	17551 23	6975 54	1215 64	842 80	.....	1553 09	1385 32	6078 89
1176 78	11214 28	1705 26	16094 32	7086 54	782 63	325 10	.....	1128 53	2444 39	4379 13
6948 58	10554 77	1701 68	15205 03	6473 05	783 05	729 44	76 68	604 96	1401 17	5136 68
4201 06	10281 30	815 71	16088 07	8232 45	1052 50	140 20	268 33	931 43	610 74	4852 42
6168 26	15360 15	4320 12	25948 56	10083 58	1561 88	967 67	640 90	1072 19	4653 70	6868 64
6380 02	12510 62	1378 16	21168 80	8251 64	1831 51	618 04	336 82	1515 49	2384 27	6231 53
10177 23	16623 12	1821 94	28632 28	11800 07	1589 58	1001 41	1507 79	1454 03	778 87	10490 58

REPORTS FOR 1896—CONTINUED.

FINANCES.

CONTINGENT FUND.										
DEBIT.			Total debit or credit.	CREDIT.						
On hand at last report.	Received from district tax.	Received from other sources.		Paid for fuel, rent, repairs, insurance and janitors.	Paid secretaries and treasurers.	Paid for records, dictionaries and apparatus.	Paid for text-books and supplies to be resold.	Paid for general supplies.	Paid for other purposes.	On hand.
\$ 3752 06	\$ 7535 04	\$ 824 73	\$ 12111 83	\$ 6221 79	\$ 909 64	\$ 67 81	\$ 19 03	\$ 679 24	\$ 319 27	\$ 3895 05
4619 29	23839 96	1622 51	30181 78	16000 52	1314 65	486 68	.....	2119 25	3544 47	6716 21
4368 41	15217 61	2778 44	22364 46	9338 80	1350 92	889 86	347 44	1528 39	4124 84	4784 21
6864 27	11634 63	8654 88	22153 78	10041 86	1644 17	226 90	438 35	1152 79	2491 33	6168 38
5285 96	19167 34	1700 28	26153 58	11702 82	2028 98	468 26	629 59	1741 66	1950 23	7632 05
4749 06	19071 52	10410 36	34230 94	14847 56	1284 20	1197 15	28 80	2842 24	10551 43	7479 56
10838 56	41129 77	1516 41	53514 74	26464 45	2284 33	1013 26	200 16	2846 35	7063 81	13642 38
1663 09	8193 43	1268 24	11149 76	5216 68	837 20	858 14	.....	1301 20	1098 92	2337 62
2435 87	9441 60	525 13	12402 60	6604 23	1102 91	45 74	29 94	752 14	402 82	3464 82
3897 27	14930 60	1145 34	19973 21	7588 61	1563 10	664 76	20 64	2410 50	1138 91	6591 69
4781 32	12610 76	844 43	18236 50	7912 90	1063 61	143 29	229 00	971 80	1401 45	6511 45
4586 41	21179 81	3451 59	29217 81	12597 01	1675 71	136 54	54 95	2377 69	6666 22	5709 69
6133 12	15147 67	7037 94	28318 73	9136 92	1670 01	916 02	666 52	1059 62	8619 79	6249 86
7030 42	20659 33	3345 32	40035 07	16796 70	1862 46	1595 18	1452 70	2386 29	9000 68	7441 06
4589 04	10205 66	5652 81	20447 51	6691 34	1477 01	358 09	465 56	2303 85	5822 51	3329 15
2257 28	10750 71	2492 07	15500 06	7988 56	860 58	176 36	34 50	2023 89	2014 05	2402 12
6114 62	11777 83	546 45	18449 90	7540 79	920 35	604 49	.....	2096 83	840 44	6446 00
1659 92	7220 88	371 10	10161 90	4365 85	1065 77	187 95	96 90	304 80	1075 74	3054 89
3636 38	14832 21	8398 95	21867 54	10225 52	1067 90	976 64	797 74	2689 79	1404 91	4705 04
3747 17	21063 71	4048 75	28879 63	18456 62	1521 08	129 41	2851 78	3129 31	2339 19	5452 24
6231 47	14809 76	1822 49	22963 72	10720 15	1300 35	429 08	1523 83	1676 16	969 87	6244 28
3634 88	8136 61	731 50	12502 99	4839 66	816 99	652 82	230 78	763 55	762 78	4416 41
5775 36	16442 07	2867 91	25105 34	10952 34	1529 18	564 67	1227 68	2048 18	3530 83	5252 96
3760 83	10638 03	859 50	15458 36	7731 98	1059 95	453 88	69 57	1236 70	639 52	4267 76
6507 12	20695 40	1467 50	28670 02	10938 39	2458 35	656 67	39 20	1947 24	2373 62	10236 45
6966 97	13948 12	1483 18	21527 27	9147 75	1208 14	577 49	605 08	949 61	718 83	8022 37
20748 49	62430 20	13674 76	96851 45	43841 64	3394 25	1047 94	6819 98	15479 91	7769 86	18497 87
11800 57	46383 33	5758 74	64022 64	26957 38	2430 75	1145 60	2475 60	5820 74	6505 89	19186 68
4315 21	17439 77	3701 09	25456 07	12669 90	1089 90	166 11	284 04	1617 80	2997 82	6630 50
2882 61	10346 69	1338 63	14567 93	7872 49	1053 48	166 94	.....	1061 86	1633 87	3279 29
5197 90	14763 52	1738 36	21699 78	8710 45	1102 27	325 53	806 02	1377 76	2094 91	7782 83
9052 22	30026 00	6806 23	45883 45	19036 18	3031 75	1161 66	3583 19	1496 05	3455 22	14119 40
9132 78	15714 93	534 01	25385 72	8369 64	1578 39	401 40	68 30	1740 82	2095 07	11132 10
8898 23	22880 89	3058 38	34837 50	15682 13	2108 78	937 06	83 11	1989 13	4084 36	9953 93
5713 15	17774 34	1685 13	25172 62	9009 83	1326 94	443 72	1005 58	1766 72	2817 73	8602 10
9644 17	20613 41	1009 65	31267 23	12312 68	2005 69	676 96	5 00	1561 28	3024 20	11181 42
5675 91	14489 53	1472 84	21838 28	10260 61	1425 44	1107 13	565 50	1418 89	1438 38	5622 83
3668 33	15505 82	5221 83	24595 98	12778 69	1271 54	148 16	1824 94	2867 93	1826 37	3878 36
4369 92	7264 34	563 53	12227 79	5008 07	941 66	266 87	.....	1172 89	753 12	4085 68
4774 61	21376 59	2099 43	23250 63	15332 95	1331 50	651 27	176 59	1984 25	1843 35	6930 72
6718 67	11570 38	941 07	19530 32	6635 31	1292 03	470 10	859 05	1822 66	2533 22	5567 95
5120 57	11924 12	2831 10	19875 79	7235 19	1200 25	458 16	23 64	1194 59	3649 23	6114 73
7001 58	10987 43	1510 66	19499 67	7662 99	954 48	582 99	11 52	1859 77	1387 39	7040 54
5656 64	18827 04	1966 37	26470 05	9996 46	1929 66	813 65	904 62	2158 85	4302 99	6363 79
4294 07	9605 46	2439 78	16339 31	5405 28	933 30	508 41	486 33	777 78	3185 31	5032 90
4054 81	10720 88	321 14	15093 83	7259 70	1238 69	175 53	3 45	791 58	856 13	4771 75
36917 06	54128 64	3253 50	94299 20	35889 16	2351 86	1508 79	776 76	8169 13	3436 79	42172 71
3791 12	8609 15	412 46	12812 73	4692 85	452 15	177 05	.....	1097 99	940 89	5451 79
7855 91	14489 87	796 10	23141 28	10123 44	1178 50	354 14	.....	1511 32	2260 02	7718 86
590042 52	1654731 17	224209 01	2468982 70	1081605 96	138010 88	58188 92	46491 40	197896 29	263596 65	683190 60

ABSTRACT [C]—

EXAMINATION

COUNTIES.	1st class certifi- cates issued.*		1st grade certifi- cates issued.		2d grade certifi- cates issued.		3d grade certifi- cates issued.		Special certifi- cates issued.†		Kind'g'rtn certifi- cates issued.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Adair...	21	62	20	43	23	154	...	...	...	...	...	...
Adams...	5	24	9	27	35	155	...	...	...	...	...	...
Allamakee...	8	31	5	18	21	88	11	84	...	...	...	...
Appanoose...	20	29	7	13	47	116	...	11	2	1	...	...
Audubon...	8	10	10	10	17	89	7	45	...	...	...	...
Benton...	14	20	22	84	50	153	...	...	1	...	...	...
Black Hawk...	6	62	9	20	47	165	...	...	5	11	...	...
Boone...	1	4	21	28	7	87	37	103	...	...	...	...
Bremer...	...	...	8	73	15	103	2	14	...	1	...	1
Buchanan...	7	29	4	16	29	144	...	2	...	...	...	...
Buena Vista...	21	53	13	30	22	132	...	6	...	...	...	...
Butler...	7	70	4	16	26	120	...	...	...	2	...	...
Calhoun...	5	41	23	12	14	76	8	49	...	...	...	...
Carroll...	24	91	21	26	41	95	...	...	...	...	...	...
Cass...	7	41	10	33	20	196	...	1	...	...	...	...
Cedar...	6	35	7	23	8	178	...	...	...	...	...	...
Cerro Gordo...	...	...	13	35	12	55	1	14	...	...	...	...
Cherokee...	16	57	16	18	21	112	8	46	...	...	...	...
Chickasaw...	8	39	12	16	16	90	6	22	...	...	...	...
Clarke...	6	26	9	23	45	155	...	...	...	...	...	...
Clay...	12	52	22	43	30	108	...	...	...	...	...	...
Clayton...	2	...	10	46	33	201	...	...	2	...	...	...
Clinton...	11	55	9	80	14	197	4	55	...	3	...	...
Crawford...	10	79	13	29	36	141	2	14	...	...	...	...
Dallas...	4	24	7	24	42	174	22	94	...	...	...	...
Davis...	19	34	9	7	36	100	...	...	...	1	...	...
Decatur...	7	22	13	23	45	130	...	...	...	...	...	...
Delaware...	4	10	3	10	21	130	8	66	...	...	...	...
Des Moines...	8	12	19	114	29	92	...	...	...	...	...	...
Dickinson...	3	33	7	21	5	76	...	...	...	...	...	...
Dubuque...	...	...	22	113	16	251	...	...	8	1	...	8
Emmet...	4	21	10	22	8	60	1	17	...	3	...	...
Fayette...	13	41	10	9	31	219	...	...	...	...	...	...
Floyd...	4	51	3	8	7	61	6	56	...	2	...	...
Franklin...	7	38	6	27	23	71	6	68	1	...	...	...
Fremont...	14	29	5	8	39	137	...	...	...	...	...	...
Greene...	1	...	26	85	16	136	4	18	1	6	...	...
Grundy...	6	10	20	48	22	61	30	42	...	...	...	...
Guthrie...	35	83	17	70	40	153	...	...	...	...	...	...
Hamilton...	1	9	1	3	20	121	16	68	2	...	...	2
Hancock...	2	16	8	17	31	109	5	49	...	...	...	...
Hardin...	...	...	16	140	35	185	...	...	...	...	...	...
Harrison...	4	5	29	113	24	135	...	...	...	...	...	...
Henry...	4	21	8	24	31	148	...	...	...	1	...	...
Howard...	4	17	14	62	15	59	10	43	...	...	...	...
Humboldt...	6	18	4	24	17	65	9	57	...	...	...	...
Ida...	5	11	15	50	30	87	...	...	...	...	...	...
Iowa...	20	60	19	30	12	70	9	20	...	...	...	...

* Since July 4, 1896, for two years.

† To teach only one or a few branches.

REPORTS FOR 1896.
OF TEACHERS.

ABSTRACT [D].

VISITATION OF SCHOOLS, APPEALS, ETC., 1898.

COUNTIES.

Adair.....	80	80	Yes	Yes..	15	.....	1100	.....	.....
Adams.....	53	53	Yes..	Yes..	10	.....	1100	1	5
Allamakee.....	141	160	No	No..	.....	.....	1212	3	9
Appanoose.....	88	86	Yes..	Yes..	21	.....	1244	.....	.....
Audubon.....	121	261	Yes..	Yes..	13	.....	1235	.....	.....
Benton.....	155	155	Yes	Yes..	22	1	1240	5	9
Black Hawk.....	203	207	No	Yes..	10	.....	1242	7	20
Boone.....	202	245	Yes..	Yes..	27	.....	1231	3	6
Bremer.....	129	281	Yes	Yes..	7	.....	1204	12	16
Buchanan.....	117	148	Yes..	No..	8	.....	1241	1	6
Buena Vista.....	150	180	Yes..	No..	7	.....	1186	8	8
Butler.....	166	200	Yes..	No..	7	.....	1248	.....	.....
Calhoun.....	142	167	Yes..	Yes..	12	.....	1248	.....	.....
Carroll.....	89	94	Yes..	Yes..	52	2	1256	5	19
Cass.....	92	124	No	Yes	8	1	1248	1	8
Cedar.....	106	110	Yes..	Yes..	4	1	1228	.....	.....
Cerro Gordo.....	119	159	Yes..	Yes..	26	1	1200	7	24
Cherokee.....	174	224	Yes..	Yes..	21	.....	1202	.....	.....
Chickasaw.....	120	225	Yes..	No..	8	.....	1218	4	10
Clarke.....	76	84	Yes	Yes..	2	.....	1220	.....	.....
Clay.....	140	195	Yes	Yes..	4	.....	1172	1	2
Clayton.....	141	211	Yes..	No..	32	1	1262	5	12
Clinton.....	128	185	Yes	Yes..	8	.....	1502	12	52
Crawford.....	25	40	Yes..	No..	12	.....	1246	4	12
Dallas.....	126	126	Yes..	Yes..	6	.....	1252	1	4
Davis.....	39	45	Yes..	No..	9	.....	1224	1	6
Decatur.....	78	72	Yes..	Yes..	7	1	1180	1	8
Delaware.....	126	166	Yes..	No..	4	.....	1206	3	9
Des Moines.....	3	7	No	Yes..	.....	.....	1222	8	49
Dickinson.....	70	140	Yes..	Yes..	12	2	725	.....	.....
Dubuque.....	180	175	Yes..	No	10	1	1432	20	171
Emmet.....	48	51	Yes..	No..	2	1	912	.....	.....
Fayette.....	125	125	Yes..	Yes..	10	.....	1240	1	23
Floyd.....	161	263	Yes..	Yes	9	.....	1226	2	17
Franklin.....	127	128	Yes..	Yes..	29	.....	1248	.....	.....
Fremont.....	164	243	Yes..	Yes..	8	1	1240	1	13
Greene.....	144	190	Yes..	Yes..	15	1	1240	2	7
Grundy.....	42	42	Yes..	Yes	10	1	1262	.....	.....
Guthrie.....	152	206	Yes	Yes	26	6	1144	2	6
Hamilton.....	91	115	Yes..	Yes	2	2	1255	2	7
Hancock.....	116	121	No	Yes..	11	2	1200	.....	.....
Hardin.....	124	187	Yes..	Yes..	9	1	1232	2	11
Harrison.....	142	150	Yes	Yes..	15	1	1234	1	2
Henry.....	87	112	Yes..	Yes..	8	.....	1212	4	17
Howard.....	108	127	Yes..	No..	5	.....	1250	2	10
Humboldt.....	64	79	Yes..	No..	2	1	1150	1	9
Ida.....	105	210	Yes..	Yes..	23	1	1200	.....	.....
Iowa.....	90	120	Yes..	Yes..	4	.....	1242	2	2
Jackson.....	50	65	Yes..	Yes..	10	1	1252	6	10
Jasper.....	42	92	Yes..	Yes..	16	.....	1252	1	7

ABSTRACT [D]—CONTINUED.

VISITATION OF SCHOOLS, APPEALS, ETC., 1893.

COUNTIES.	VISITATION OF SCHOOLS.		EDUCATIONAL MEETINGS.			AP-PEALS.	C'MP'N RATION OF CO. SUPT.	COLLEGES AND PRIVATE SCHOOLS			
	Schools visited by county superintendent.	Visits made during the year.	County associations.	Township meetings held.	Educational meetings held.			Number.	Teachers employed.	Students attending.	Number of graduates.
on.....	105	107	Yes..	No..	4		1224	2	11	222	20
n.....	163	205	Yes..	Yes..	42	1	1176	6	115	1938	365
n.....	98	109	Yes..	No..	5		1243				
k.....	70	70	Yes..	Yes..	2		1256				
h.....	222	232	Yes..	No..	1		1174	1	6	200	19
.....	12	12	No..	No..			1244	4	12	814	28
.....	150	193	Yes..	No..	15		1252	5	42	828	44
.....	54	58	Yes..	Yes..	10	2	1256				
.....	24	27	Yes..	Yes..	9		916				
.....	90	108	Yes..	Yes..	16	1	1000	1	2	101	
n.....	162	231	Yes..	Yes..	57		1272	1	6	103	2
ka.....	125	129	Yes..	Yes..	9	2	1256	4	23	441	23
.....	75	100	No..	Yes..	70		1258	1	9	200	6
ll.....	75	75	Yes..	Yes..	45		1252	2	22	447	29
.....	60	67	Yes..	Yes..	5		1250				
l.....	110	140	Yes..	Yes..	7		1158	2	15	270	26
.....	101	135	Yes..	Yes..	4		1252	1	4	100	
.....	83	85	Yes..	Yes..	4	1	1171				
omery.....	79	97	Yes..	Yes..	3		1200				
line.....	42	58	Yes..	Yes..	11		1220	6	23	569	53
.....	136	188	Yes..	Yes..	8	2	1222	1	2	109	24
.....	101	196	Yes..	No..	22		72	4	6	105	18
.....	150	175	Yes..	Yes..	10		52	2	23	581	54
to.....	143	229	Yes..	Yes..	18		64	1	6	192	1
nth.....	142	180	Yes..	Yes..	16		48	5	19	862	66
ntas.....	82	96	Yes..	No..	3		40				
.....	186	186	Yes..	Yes..	84		50	10	124	4421	355
attamie.....	196	212	Yes..	Yes..	11	2	40	3	12	441	9
alek.....	40	45	No..	Yes..	5		00	1	30	400	49
ld.....	111	159	Yes..	Yes..	9	1	44				
.....	111	140	Yes..	Yes..	7		49	1	7	154	1
.....	121	138	Yes..	No..	2		42	11	65	1267	52
.....	96	97	Yes..	Yes..	21		52	4	11	180	6
.....	184	175	Yes..	Yes..	65		52	8	19	555	25
.....	151	214	Yes..	Yes..	7		42				
.....	58	58	Yes..	No..	6		26	1	12	155	4
.....	75	75	Yes..	Yes..	10		39				
.....	110	126	Yes..	No..	5	1	00	3	12	400	12
area.....	40	47	Yes..	Yes..	3	2	48	1	1	50	
to.....	125	125	No..	Yes..	10		50	4	11	382	28
n.....	122	135	Yes..	Yes..	15		43	2	20	360	7
ngton.....	169	218	Yes..	No..	5		40	4	10	380	28
.....	98	105	Yes..	No..	2	1	40	1	5	120	6
ar.....	278	287	Yes..	No..	3	2	04	1	7	90	9
bago.....	100	186	Yes..	No..	11		00				
shik.....	102	180	Yes..	Yes..	6		71	7	38	1420	122
ury.....	175	244	Yes..	Yes..	12		01	5	24	607	25
.....	103	195	Yes..	Yes..	27	1	45				
t.....	112	121	Yes..	Yes..	12	5	06				
Totals.....	10032	12914			1347	54	86	270	1339	25129	2221

Average compensation.

ABSTRACT [D]—CONTINUED.

SUMMARY OF SUPERINTENDENTS' WORK, 1896.

COUNTIES.	Schoolrooms.	Separate visits to schools.	Teachers necessary.	Applicants examined.	Certificates granted.	COUNTIES.	Schoolrooms.	Separate visits to schools.	Teachers necessary.
Adair.....	166	80			232	Jones.....			75
Adams.....	129	82			265	Keokuk.....			97
Allamakee.....	148	19			266	Kossuth.....			13
Appanoose.....	180	39			246	Lee.....			14
Audubon.....	128	261			196	Linn.....			103
Benton.....	226	155			344	Linn.....			14
Black Hawk.....	309	207			325	Lucas.....			18
Boone.....	211	245			288	Lyon.....			53
Bremer.....	130	281			217	Madison.....			64
Buchanan.....	183	148			231	Wabaska.....			25
Buena Vista.....	169	160			277	Marion.....			63
Butler.....	170	20			245	Marshall.....			23
Calhoun.....	171	167			228	Mills.....			18
Carroll.....	176	94			204	Mitchell.....			36
Cass.....	198	124			313	Monona.....			25
Cedar.....	177	110			257	Monroe.....			21
Cerro Gordo.....	187	189			140	Montgomery.....			54
Cherokee.....	174	234			294	Muscatine.....			66
Chickasaw.....	139	225			209	O'Brien.....			75
Clarke.....	125	84			204	Osceola.....			101
Clay.....	147	195			207	Page.....			152
Clayton.....	220	211			294	Palo Alto.....			45
Clinton.....	273	135			424	Plymouth.....			105
Crawford.....	207	40			224	Pocahontas.....			58
Dallas.....	300	126			391	Polk.....			42
Davis.....	121	45			206	Pottawattamie.....			126
Decatur.....	162	76			240	Poweshiek.....			185
Delaware.....	160	166			252	Ringgold.....			156
Des Moines.....	197	7			274	Sac.....			166
Dickinson.....	68	140			145	Scott.....			149
Dubuque.....	238	176			414	Shelby.....			171
Emmet.....	93	51			146	Sioux.....			122
Fayette.....	230	125			223	Story.....			191
Floyd.....	155	262			194	Tama.....			226
Franklin.....	160	139			246	Taylor.....			162
Fremont.....	154	242			242	Union.....			162
Greene.....	169	190			293	Van Buren.....			148
Gundy.....	144	43			239	Wanella.....			111
Guthrie.....	187	206		424	306	Warren.....			167
Hamilton.....	170	115		308	243	Washington.....			69
Hancock.....	141	124		270	267	Wayne.....			161
Bardin.....	194	187		444	376	Webster.....			126
Harrison.....	197	160		415	300	Winnebago.....			103
Henry.....	182	113		260	23	Winneshiek.....			177
Heward.....	116	127		248	234	Woodbury.....			159
Humboldt.....	125	79		251	200	Worth.....			90
Ida.....	131	210		246	194	Wright.....			169
Iowa.....	175	120		341	240	Totals.....			361
Jackson.....	193	65		368	334				
Jasper.....	230	93		567	344				
Jefferson.....	120	107		246	201				
Johnson.....	216	205		387	306				

ABSTRACT [D]—CONTINUED.

SUMMARY CONDITION OF SCHOOLHOUSES, 1896.

COUNTIES.	New schoolhouses.						Without suitable and separate outbuildings for each sex.	Schoolhouses provided with flags.	COUNTIES.	New schoolhouses.						Without suitable and separate outbuildings for each sex.	Schoolhouses provided with flags.
	Whole number.	Good.	Fair.	Poor.	Without suitable and separate outbuildings for each sex.	Schoolhouses provided with flags.				Whole number.	Good.	Fair.	Poor.	Without suitable and separate outbuildings for each sex.	Schoolhouses provided with flags.		
Adair.....	145	105	22	12	8	30	Jones.....	8	138	58	32	20	15	65			
Adams.....	111	87	18	5	2	30	Keokuk.....	4	145	80	45	20	5	75			
Adams.....	131	72	48	10	15	6	Kossuth.....	7	196	121	45	20	30	50			
Adams.....	122	20	87	25	15	4	Lee.....	2	125	48	50	27	4	15			
Adams.....	112	91	15	6	6	38	Linn.....	1	206	152	48	6	50	85			
Adams.....	187	112	46	29	40	20	Louisa.....	1	87	42	26	9	15	28			
Adams.....	148	58	68	25	30	26	Lucas.....	1	94	52	33	16	6	27			
Adams.....	157	96	45	16	16	143	Lyon.....	3	122	73	49	7	65	29			
Adams.....	113	84	20	9	12	28	Madison.....	3	138	65	56	17	13	20			
Adams.....	145	96	44	6	2	10	Mahaaska.....	2	159	80	62	17	40	75			
Adams.....	142	84	40	18	6	20	Marion.....	3	151	105	26	20	25	40			
Adams.....	145	105	26	6	12	100	Marshall.....	1	155	75	50	30	2	70			
Adams.....	146	67	74	5	8	26	Mills.....	5	91	58	15	10	25	12			
Adams.....	145	131	9	5	3	97	Mitchell.....	3	108	59	42	7	12	32			
Adams.....	152	51	81	20	25	30	Monona.....	6	143	68	45	12	8	15			
Adams.....	145	78	61	6	15	20	Monroe.....	1	101	40	43	18	5	2			
Adams.....	145	80	47	68	.....	56	Montgom'y.....	1	112	90	18	5	.....	112	
Adams.....	144	127	5	1	7	130	Muscatine.....	1	101	56	43	2	8	75			
Adams.....	119	90	20	9	12	57	O'Brien.....	2	136	98	34	4	3	136			
Adams.....	107	78	20	14	7	13	Osceola.....	2	92	78	9	6	5	10			
Adams.....	130	86	29	15	24	9	Page.....	3	136	94	34	8	4	93			
Adams.....	178	129	41	9	13	100	Palo Alto.....	7	125	86	21	16	25	10			
Adams.....	183	50	68	67	20	140	Plymouth.....	5	174	150	15	9	3	100			
Adams.....	176	137	30	9	15	12	Pocahont's.....	6	141	90	32	19	3	30			
Adams.....	153	130	20	3	3	56	Polk.....	5	185	154	15	14	7	35			
Adams.....	105	90	12	3	5	30	Pot'w'mie.....	2	262	150	100	12	30	200			
Adams.....	124	63	44	17	25	25	Poweshiek.....	1	147	100	30	17	4	60			
Adams.....	138	110	24	4	6	31	Ringgold.....	10	135	40	60	25	3	60			
Adams.....	99	57	39	3	12	50	Sac.....	2	141	102	26	13	10	10			
Adams.....	70	43	20	7	6	10	Scott.....	1	121	96	22	3	9	121			
Adams.....	144	105	31	8	20	18	Shelby.....	2	144	52	50	24	20	60			
Adams.....	75	44	22	9	6	4	Stouxx.....	4	179	14	32	7	54	35			
Adams.....	190	120	30	40	6	45	Story.....	3	147	77	48	24	.....	96		
Adams.....	123	85	16	21	2	110	Tama.....	1	181	147	30	14	35	50			
Adams.....	141	117	19	5	8	58	Taylor.....	3	132	60	40	23	11	25			
Adams.....	123	30	61	32	1	10	Union.....	6	122	8	106	8	3	10			
Adams.....	144	100	26	9	4	90	Van Buren.....	2	116	60	48	8	23	47			
Adams.....	128	86	32	10	8	100	Wapello.....	1	113	40	60	13	6	75			
Adams.....	152	120	97	5	4	65	Warren.....	2	143	98	30	15	10	30			
Adams.....	149	91	30	21	26	35	Washingt'n.....	2	134	86	36	17	30	30			
Adams.....	124	112	8	4	37	5	Wayne.....	4	132	84	26	12	7	60			
Adams.....	150	124	22	4	.....	50	Webster.....	3	186	85	97	4	3	25		
Adams.....	155	129	11	15	75	25	Winnebago.....	6	80	44	39	6	6	10			
Adams.....	107	53	28	16	5	15	Winnebask.....	6	148	20	71	55	16	43			
Adams.....	102	80	37	5	8	63	Woodbury.....	7	215	180	25	10	12	5			
Adams.....	112	40	63	10	12	16	Worth.....	1	91	66	2	2	4	34			
Adams.....	108	78	16	14	3	18	Wright.....	1	128	126	11	2	10	8			
Adams.....	141	110	14	17	20	4	Totals.....	292	12686	8476	3775	1435	1426	4084			
Adams.....	153	60	75	18	10	16											
Adams.....	167	129	39	9	19	98											
Adams.....	99	35	51	12	14	60											
Adams.....	173	104	44	25	20	30											

ABSTRACT

TEA

COUNTIES.	WHERE HELD.	SESSIONS.			TEACHERS ATTENDING.	
		Commencing.	Continuing weeks.	Number daily.	Males.	Females.
Adair.....	Greenfield.....	*August 10	4	1	52	238
Adams.....	Corning.....	July 20	3	1	24	121
Allamakee.....	Waukon.....	August 3	2	2	37	170
Appanoose.....	Centerville.....	August 10	2	2	67	168
Audubon.....	Audubon.....	August 10	2	2	25	142
Benton.....	Vinton.....	*August 3	3	2	48	224
Black Hawk.....	Waterloo.....	*July 20	3	2	44	226
Boone.....	Ogden and Boone.....	July 13	4	2	87	301
Bremer.....	Waverly.....	July 8	2	2	14	142
Buchanan.....	Independence.....	August 3	3	2	17	169
Buena Vista.....	Storm Lake.....	July 20	3	2	19	168
Butler.....	Allison.....	July 27	3	2	36	175
Calhoun.....	Rockwell City.....	August 17	2	2	17	150
Carroll.....	Carroll.....	July 27	2	2	48	190
Cass.....	Atlantic.....	July 13	2	1	35	22
Cedar.....	Tipton.....	August 10	2	2	14	210
Cerro Gordo.....	Clear Lake and Mason City.....	August 3	3	2	31	212
Cherokee.....	Cherokee.....	July 20	2	2	40	229
Chickasaw.....	New Hampton.....	August 17	2	2	18	155
Clarke.....	Osceola.....	July 27	2	2	35	151
Clay.....	Spencer.....	August 3	2	2	31	146
Clayton.....	Elkader.....	August 10	2	2	34	219
Clinton.....	Clinton.....	August 3	2	1	25	226
Crawford.....	Denison.....	August 17	2	2	45	229
Dallas.....	Adel.....	July 27	2	2	30	224
Davis.....	Wloomfield.....	August 10	2	2	52	116
Decatur.....	Leon.....	June 15	2	1	44	161
Delaware.....	Manchester.....	August 3	2	2	28	208
Des Moines.....	Burlington.....	June 22	2	2	23	142
Dickinson.....	Spirit Lake.....	August 3	2	2	15	86
Dubuque.....	Dubuque.....	June 22	1	2	30	327
Emmet.....	Estherville.....	August 17	2	2	13	99
Fayette.....	West Union.....	*July 27	3	2	40	236
Floyd.....	Charles City.....	August 17	2	2	14	172
Franklin.....	Hampton.....	August 17	2	2	34	156
Fremont.....	Sidney.....	June 22	2	2	39	172
Greene.....	Jefferson.....	August 3	2	2	36	244
Grundy.....	Grundy Center.....	July 27	2	2	57	146
Guthrie.....	Guthrie Center.....	July 27	2	2	98	176
Hamilton.....	Webster City.....	July 20	2	2	18	165
Hancock.....	Britt.....	July 13	2	2	15	102
Hardin.....	Eldora.....	March 23	2	2	46	206
Harrison.....	Logan.....	July 13	2	2	30	220
Henry.....	Mt Pleasant.....	August 10	2	2	40	197
Howard.....	Oresco.....	March 23	2	2	25	137
Humboldt.....	Humboldt.....	August 3	2	2	21	128
Ida.....	Ida Grove.....	June 15	2	2	20	175
Iowa.....	Marengo.....	August 3	2	2	59	201
Jackson.....	Bellevue.....	June 22	2	2	24	177
Jasper.....	Newton.....	August 3	2	2	46	208

*Including a supplementary institute.

REPORTS FOR 1896.

NORMAL INSTITUTES.

INSTITUTE FUND.

RECEIPTS.						EXPENDITURES.		
report.	Examination fees.	Registration fees.	State appropriation.	County appropriation and sundries.	Total.	Instruction and lectures.	Incidentals.	Unexpended.
585 48	418	203	50	21 70	1219 18	793 00	195 70	890 48
28 65	283	145	50	.....	481 05	330 00	121 00	20 85
267 12	336	207	50	.....	858 12	457 00	38 00	257 12
149 25	386	225	50	.....	691 25	584 62	67 50	40 13
32 95	220	167	50	311 50	800 46	668 00	108 50	28 96
279 24	410	282	50	.....	1081 24	680 00	160 00	232 24
827 46	374	342	50	.....	1593 46	706 00	72 56	110 90
108 46	345	308	50	.....	691 46	704 84	107 02	79 50
211 71	250	158	50	.....	670 71	415 00	49 05	212 66
68 93	240	126	50	.....	484 93	285 00	84 75	125 18
91 57	317	207	50	.....	665 57	582 00	69 18	14 39
250 22	282	211	50	.....	902 82	497 50	61 10	344 22
87 72	256	167	50	3 00	563 72	336 00	71 00	149 72
26 00	280	200	50	.....	651 00	510 20	180 80	10 50
28 00	412	257	50	.....	787 00	569 50	196 50	1 00
205 28	201	204	50	.....	780 28	630 00	100 00	144 88
254 90	185	243	50	115 00	847 90	781 00	82 65	84 34
570 40	256	200	50	.....	1845 40	585 00	43 24	737 16
282 53	256	173	50	15 00	775 53	559 00	68 10	148 43
90 63	208	186	50	.....	632 63	475 00	98 55	65 08
121 75	226	177	50	.....	674 75	370 00	47 50	257 25
625 21	272	252	50	.....	1300 21	655 00	135 70	509 51
4 93	486	251	50	.....	891 93	646 75	214 80	20 28
90 20	354	274	50	.....	768 20	560 00	87 80	120 00
38 04	400	288	50	130 56	800 88	534 00	266 62	.....
106 93	280	174	50	.....	560 93	379 00	61 25	120 68
306 00	288	210	50	22 00	872 00	466 00	48 00	358 40
23 90	308	226	50	.....	617 90	555 00	55 75	7 24
36 40	282	165	50	.....	523 40	385 00	73 05	75 35
130 54	149	98	50	.....	427 54	215 00	20 25	192 19
10 00	431	357	50	.....	848 00	500 00	100 00	12 00
61 49	155	122	50	.....	378 49	285 00	40 95	53 54
344 58	485	278	50	.....	975 53	644 10	202 88	38 60
5 54	237	186	50	.....	468 66	345 00	114 95	9 71
102 55	299	190	50	7 00	738 55	556 00	68 40	115 15
4 97	208	211	50	.....	559 97	395 00	163 97	.....
10 27	374	280	50	75	715 02	499 25	215 77	.....
203 46	278	203	50	.....	789 46	604 00	48 25	130 21
435 21	424	274	50	.....	1189 21	780 25	110 00	235 41
120 01	308	188	50	.....	671 01	431 00	57 72	183 29
209 90	270	117	50	.....	646 90	440 00	51 90	155 00
66 24	444	252	50	.....	892 24	448 00	286 40	147 84
496 90	415	250	50	22 00	1233 20	710 00	100 00	423 20
220 00	200	237	50	10 00	778 50	535 75	42 67	190 97
3 78	258	173	50	.....	488 78	372 00	107 26	4 87
62 22	251	159	50	.....	522 22	460 00	26 00	27 22
163 49	244	195	50	.....	644 49	460 00	65 00	118 50
257 21	241	253	50	.....	901 21	524 00	61 40	315 81
140 76	258	201	50	.....	749 76	476 00	121 88	143 46
175 50	267	254	50	.....	1146 50	771 50	253 85	91 24

ABSTRACT

TEACH

* Including a supplementary institute. † Average length of institute.

REPORTS FOR 1896—CONTINUED.

NORMAL INSTITUTES.

INSTITUTE FUND.								
RECEIPTS.						EXPENDITURES.		
On hand at last report.	Examination fees.	Registration fees.	State appropriation.	County appropriation and sundries.	Total.	Instruction and lectures.	Incidentals.	Unexpended.
\$ 305 09	\$ 246	\$ 231	\$ 50		\$ 892 09	\$ 447 75	\$ 64 80	\$ 379 54
34 47	387	253	50		729 47	606 00	93 55	29 92
287 61	370	198	50		905 61	540 00	80 98	284 68
165 14	500	306	50		1021 14	855 00	158 75	7 39
304 00	339	274	50		867 00	394 00	69 50	403 50
586 35	835	135	50	13 00	1119 35	250 00	77 15	792 20
8 03	680	525	50		1068 03	626 00	456 88	1 15
140 28	264	146	50	15 60	605 88	430 00	24 10	151 78
164 45	389	184	50		787 45	454 50	110 05	222 90
112 53	233	177	50		571 53	460 00	12 00	99 53
288 80	335	298	50		1066 80	518 00	153 00	395 80
6 08	452	295	50		763 08	615 00	141 10	6 98
106 87	307	256	50		719 87	492 50	90 79	124 67
235 62	535	279	50		1099 62	720 55	77 90	301 27
84 90	306	182	50	59 00	651 90	436 80	110 45	104 65
98 80	303	302	50		641 80	530 00	36 60	75 20
378 36	299	209	50		936 36	461 00	68 20	407 16
113 49	299	201	50	8 30	671 79	490 00	42 00	149 79
301 00	335	192	50		777 00	503 00	32 50	241 50
151 00	271	203	50		675 00	490 00	190 40	4 60
182 80	297	197	50	1 50	728 30	490 00	67 10	181 20
73 58	165	137	50		425 58	340 00	55 25	30 23
242 26	340	256	50	20 36	666 36	577 77	73 03	16 56
75 61	293	158	50		733 26	417 00	93 10	223 16
293 97	346	305	50		701 00	495 00	100 00	106 00
3 45	355	226	50		708 61	522 00	92 10	92 51
74 35	747	618	50		1648 97	915 00	227 04	506 98
19 95	329	402	50		934 45	715 00	144 15	125 30
68 01	330	183	50		607 35	466 00	49 75	92 60
314 19	295	231	50	55 00	650 95	419 00	94 90	137 05
296 00	291	172	50	09	579 10	494 00	27 10	58 00
353 23	311	296	50		941 19	587 50	65 53	288 16
223 96	282	206	50		836 00	463 00	123 85	249 15
185 36	327	213	50		945 23	848 00	97 23	276 51
524 10	404	241	50		917 96	536 00	106 45	276 51
203 17	552	350	50		1117 35	715 00	155 95	246 40
236 12	453	220	50		1247 10	579 60	87 70	579 80
458 33	273	233	50		759 17	361 00	47 00	361 17
211 98	281	196	50		763 12	410 00	116 40	236 72
485 43	349	270	50		1127 23	670 00	17 15	440 08
375 30	343	261	50		865 96	490 00	124 40	251 56
154 72	380	250	50		1165 43	538 00	61 75	565 68
62 40	291	224	50		930 30	581 50	30 50	318 30
163 48	341	265	50		810 72	574 00	127 97	108 75
11 70	160	95	50		367 40	343 50	21 25	3 65
112 80	306	244	50		765 48	490 00	116 78	158 72
34 75	529	298	50		888 70	619 00	183 51	86 19
	202	132	50		496 80	420 00	76 55	25
	294	191	50		599 75	485 00	89 93	24 82
\$ 18188 84	\$ 22878	\$ 22008	\$ 4960	\$ 633 28	\$ 70766 62	\$ 51697 73	\$ 10228 96	\$ 17835 98

ABSTRACT [E] -CONTINUED.

(Lack of room on these two pages compelled the omission of a few names)

COUNTIES.
Adair.....
Adams.....
Allamakee...
Appanoose...
Audubon.....
Benton
Black Hawk..
Boone.....
Bremer.....
Buchanan....
Buena Vista..
Butler
Calhoun.....
Carroll.....
Cass.....
Cedar.....
Cerro Gordo..
Cherokee....
Chickasaw...
Clarke.....
Clay.....
Clayton.....
Clinton.....
Crawford.....
Dallas.....
Davis.....
Decatur
Delaware
Des Moines...
Dickinson....
Dubuque.....
Emmet.....
Fayette
Floyd.....
Franklin....
Fremont.....
Greene.....
Grundy.....
Guthrie
Hamilton....
Hancock.....
Hardin.....
Harrison
Henry
Howard
Humboldt....
Ida.....
Iowa.....

ABSTRACT [E]—CONTINUED

SCHOOL.	CONDUCTOR.	INSTRUCTORS.
Adams.	A. F. Kearney.	W. H. Bender, A. P. Heald, J. M. Davis, Anna E. McGovern [Dick, J. O. Hisey.
Adams.	Agnes M. Walsh.	E. J. H. Beard, Dan Miller, W. N. Clifford, G. S.
Adams.	B. A. Harkness.	M. F. Arey, J. E. Williamson, S. Laura Ensign.
Adams.	W. A. Willis.	W. F. Cramer, A. T. Hukill, M. Adelaide Holton, G. O. Fracker. [S. Wise, E. L. Coburn.
Adams.	T. J. Cawan.	A. B. Warner, W. A. Doron, D. M. Kelly, Mrs. M.
Adams.	S. A. Potts.	H. H. Serley, G. H. Mullin, E. H. Griffin, Mrs. A. H. Mendenhall, W. O. Mullin, L. Higgins, J. A. Thomas [J. Lilly.
Adams.	B. F. Reed.	G. W. Young, A. B. Carroll, Mrs. M. T. Hatch, A.
Adams.	G. W. Walters.	A. L. Shattuck, Geo. Galloway, W. L. Sheets.
Adams.	N. H. Richards.	H. H. Freer, J. T. Merrill, J. J. Doffmeyer, F. J. Sessions, W. A. Doron, Mrs. M. E. Davis.
Adams.	Lizzie Hughes.	Lacy Curtis, W. H. Bender, Sara M. Riggs, A. M. M. Dornon.
Adams.	Mrs. C. O. Goltry.	O. O. Scott, S. M. Cart, Carrie E. Allen, Nellie Sanborn, Jennie Stewart, E. L. Colburn.
Adams.	W. S. Wilson.	J. A. Lapham, Julia Scurry, Mary McCallum.
Adams.	F. B. Cooper.	J. J. McConnell, G. W. Samson, A. V. Storm.
Adams.	Florabel Patterson.	Wm. Wilcox, W. O. Riddell, Anna E. Atwater, Bertha Martin, Marion Ross, Katie E. Palmer.
Adams.	R. G. Mulky.	J. H. Garber, W. W. Cook, L. B. Carlisle, S. J. Finley, P. B. Woods. [Stine Benson.
Adams.	O. W. Bacon.	Lacy Curtis, H. B. Hayden, H. A. Kinney, Chris.
Adams.	H. W. Sawyer.	O. O. McConnell, Mrs. E. Ware, Miss L. Badollet.
Adams.	E. O. Barrett.	Wm. Wilcox, O. P. Colgrove, J. F. Smith, Kate Gill.
Adams.	F. E. Lark.	H. E. Kratz, H. H. Hahn, J. W. Robey, Eva Kendall [H. G. Hickenlooper.
Adams.	H. C. Hollingsworth.	F. E. King, O. H. Pearce, Mrs. L. B. Carlisle, Mrs.
Adams.	J. W. Clark.	G. W. Walters, W. Y. Chevalier, Julia Scurry, Bertha Martin, I. A. Condit [Harnes.
Adams.	A. L. Brower.	R. W. Leverich, F. M. Witter, S. Plimly, J. A.
Adams.	Ella Beckerson.	Estia Suplee, O. W. Martindale, W. S. Wilson, W. I. Simpson, R. B. Daniel.
Adams.	J. J. Doffmeyer.	W. S. Wilson, Mrs. A. L. Shattuck, B. F. Green.
Adams.	H. E. Deater.	J. M. Hussey, W. Bell, J. A. Woods, F. A. Lacey.
Adams.	Basile Larsen.	S. E. Blanchard, J. A. Shannon, H. E. Wheeler, Mrs. Carrie T. Hieckley, W. A. Orusberry.
Adams.	E. N. Co'eman.	J. S. Shoup, G. W. Young, F. M. Chaffee.
Adams.	J. O. Gilchrist.	A. W. Davis, U. S. Vance, T. J. Lear, Tillie Oramer.
Adams.	F. B. Cooper.	A. V. Storm, G. W. Samson, A. W. Rich, Mrs. M. T. Hatch, W. O. Riddell, O. O. Carter.
Adams.	H. W. Sawyer.	W. O. Davis, S. O. Hanson, O. J. McManna, O. Spruitt, Grace A. Kall. [Stolebarger.
Adams.	W. O. Rayburn.	G. W. Cowden, G. W. Bryan, F. S. Robinson, A. P.
Adams.	Mattie Stahl.	E. F. Sanders, J. E. Smith, J. H. Richardson.
Adams.	E. N. Coleman.	O. E. Stallcop, O. V. Findlay, J. N. Hamilton.
Adams.	O. L. Saksdorf.	E. E. White, W. Jackman, W. D. Wells, J. B. Knoopfer, Jennie Oleaves.
Adams.	D. S. Wright.	M. A. Reed, Mary A. Blood, A. B. Warner.
Adams.	M. M. Mishler.	J. L. Mishler, D. M. Odie, Geo. Chandler, O. E. Shelton, T. B. Hutton, J. H. Orcutt, D. W. Gross, O. H. Brake. [Ford.
Adams.	G. W. Phillips.	L. T. Weld, J. F. Reed, A. V. Storm, Lillian Bridge.
Adams.	A. L. Speaker.	E. E. Blanchard, J. B. Young, B. F. McOlelland, S. O. Huber, A. E. Parsons, R. E. Kietzing, W. L. Bywater.
Adams.	F. E. Crosson.	G. W. Samson, Mrs. M. T. Hatch, G. W. Fisher, O. M. Harvey, W. B. Read, Emma Crow.
Adams.	Chas. Emerson.	E. E. Gaylord, A. G. Owens, Carrie V. Lynn, J. B. Morris. [lenbarger.
Adams.	A. B. Goss.	J. H. Landes, W. T. Dick, F. E. Buck, D. T. Sol.
Adams.	A. W. Stuart.	M. F. Arey, J. E. Williamson, Ida L. Schell, Elizabeth K. Matthews. [ball, Nellie Sanborn.
Adams.	E. B. Guthrie.	B. P. Holst, E. W. Beard, W. R. Read, S. H. Tid.
Adams.	Cornelia Klean.	W. J. Black, G. H. Mullin, S. Laura Ensign, Julia Scurry. [P. L. Dorland, S. L. Tipton.
Adams.	Carrie M. Goodell.	H. C. Hollingsworth, L. Hageman, J. F. Holliday.
Adams.	O. V. Findlay.	L. Hazelwood, J. W. Jackson, A. L. Brown, Louise Walk, W. D. Young, J. F. Monk. [ell.
Adams.	J. D. Stost.	W. A. Orusberry, S. A. Emery, Hattie M. Mitch.
Adams.	L. T. Weld.	Florence P. Stone, H. L. Coffeen, J. Breckenridge.
Adams.	E. A. Brown.	J. S. Shoup, J. G. Hobson, O. A. Shotta, J. H. O'Donoghue.
Adams.	S. B. Toye.	J. A. Lapham, Ella Z. Huffman, H. A. Dwelle.
Adams.	G. T. Eldridge.	L. Hazelwood, J. G. Grundy, H. A. Dwelle.

Y SYSTEMS.

ulation by the Census of 1895.

att. 20 F. J. Sessions 21 G. A. Bateman. 22 W. F. Cramer. 23 O. E. French. 24 A. Sale. 25 F. E. Stephens. 26 J. L. Buschelo. 27 C. W. Martindale. 28 E. N. Cole-
n 29 Wm. Wilcox. 30 O. J. Laylander. 31 W. F. Chevallier 32 G. S. Dick 33 J. E.
Williamson. 34 J. F. Riggs. 35 J. J. Doffemyer. 36 G. H. Mullin. 37 A. L. Lyon. 38 O.
Dudley. 39 A. B. Warner. 40 S. M. Cart. 41 S. B. Montgomery. 42 G. W. Cowden.
E. J. H. Beard. 44 H. O. Waddle. 45 E. A. Parks. 46 F. A. Lacey. 47 J. L. Rose.
Wm. Bell. 48 J. G. Grundy.

COMPARATIVE SHOWING FOR 1895-6.

From all cities in Iowa of more than 1,500 and less than 3,000 population.

Compiled chiefly from the reports of county superintendents.

GRADED SCHOOLS.

Not including those found in tables on pages 26 and 28.

NAMES OF CITIES OR TOWNS.	Number months school.	Enumeration be- tween 5 and 31 in 1895.	Enrolled in school in 1895-6.	Average attend- ance, 1895-6.	Average tuition per month for each scholar in av. attendance.	NAME OF SUPERIN- TENDENT OR PRINCIPAL, 1895-6.	Annual salary.
Chickley	9.0		384	800	\$ 1.44	O. H. Cole	\$1000
Chair	9.0		266	211	1.87	Adam Pickett	720
Chel	9.0		401	360	1.30	U. R. Aurner	1000
Chen	9.0		413	233	1.42	J. B. Morris	950
Cheney	9.0		188	123	1.78	Ava K. Clements	540
Chenworth	9.0		143	108	1.55	T. H. Barnes	700
Chen	9.0		302	260	1.01	L. O. Hise	840
Chen	9.0		193	142	1.85	J. E. Tool	620
Cherton	9.0		336	286	1.33	J. F. Holiday	880
Chilton	9.0		160	107	1.63	A. G. Morey	630
Chilton	9.0		284	205	1.47	H. E. Crosby	810
Chilton	10.0		213	145	1.76	T. B. Hutton	900
Chilton	9.0		145	129	1.15	Guy Ollinton	450
Chilton	9.0		305	133	1.40	J. L. Cunningham	585
Chilton	9.0		389	283	1.59	F. B. Lawrence	810
Chilton	9.0		216	123	1.72	Miss M. R. Muhs	510
Chilton	9.0		237	172	1.02	M. J. Goodrich	675
Chilton	7.0		360	261	1.09	J. P. Huggett	675
Chilton	9.0		227	158	1.43	J. H. McOlair	720
Chilton	9.0		311	186	1.59	J. R. Byers	630
Chilton	9.0		235	164	1.73	Frank Jarvis	675
Chilton	9.0		154	126	1.30	S. G. Richards	450
Chilton	9.0		160	128	1.49	J. M. Boggs	630
Chilton	9.0		233	214	1.01	J. P. McMurray	630
Chilton	9.0		3.6	248	1.46	Angus Macdonald	900
Chilton	8.0		185	139	.96	S. D. Willis	500
Chilton	9.0		186	129	1.65	Chas. Keyes	800
Chilton	9.0		171	136	1.81	W. R. Andrews	450
Chilton	8.0		242	173	1.33	W. T. Dick	640
Chilton	8.0		284	200	.99	E. G. Copeland	560
Chilton	9.0		433	283	1.15	A. M. Deyoe	1000
Chilton	9.0		364	264	1.72	F. S. Robinson	1100
Chilton	9.0		303	175	1.11	H. L. Coffeen	667
Chilton	8.0		192	122	1.31	Jesse Tallman	440
Chilton	9.0		475	308	2.19	J. A. Callison	1200
Chilton	8.5		181	106	1.40	F. B. Taylor	360
Chilton	9.0		318	141	1.80	J. E. Cameron	760
Chilton	9.0		160	110	1.83	M. P. Kenworthy	595
Chilton	9.0		198	143	1.40	U. O. Gray	630
Chilton	9.0		200	160	.86	T. B. Morris	540
Chilton	9.5		288	246	1.66	O. F. Garrett	806
Chilton	8.0		327	254	.82	W. C. Kennedy	720
Chilton	9.0		192	143	1.91	J. H. Morgan	1111
Chilton	9.0		364	280	1.86	G. N. Sabla	900
Chilton	9.0		213	183	1.33	G. H. Betts	900
Chilton	9.0		231	191	1.81	Harry Ash	675
Chilton	9.0		234	193	1.84	W. A. Lester	540
Chilton	9.0		155	114	1.34	J. E. Gould	540
Chilton	9.0		265	200	1.03	D. A. Knapp	675
Chilton	9.0		164	118	1.83	J. A. Nickolaus	550
Chilton	9.0		309	245	1.60	D. B. Michener	1000
Chilton	8.0		119	80	2.16	Edd Chesbro	436
Chilton	9.0		343	256	1.88	D. K. Bond	900
Chilton	9.0		378	238	1.85	J. H. O'Donoghue	10.0
Chilton	7.5		176	112	2.41	O. W. Thompson	675
Chilton	8.0		352	274	1.83	P. L. Dorland	1000
Chilton	9.0		150	120	1.83	S. C. Dickinson	630

* In city of Des Moines.

GRADED SCHOOLS—CONTINUED.

* In city of Des Moines.

GRADED SCHOOLS—CONTINUED.

GRADED SCHOOLS—CONTINUED.

NAME OF OR TOW	Enumeration be-	Average attend- ance, 1895-6.	Average tuition
Nora Sprin		203	1 78 G. W. Bandlett.....
North Eag		186	1 20 C. E. Fleming.....
North McG		128	1 43 J. J. Mc-naul.....
Northw od		280	1 24 E. W. G. Vogenita....
*Oakdale..		270	1 87 C. O. Carter.....
Oakland ..		2 7	1 24 W. B. Buckley.....
*Oak Park		195	1 93 Z. O. Thornburg.....
Odeholt....		337	1 16 Chas Henry.....
Ogoen.....		159	1 51 S. F. Reece.....
Olin ..		168	2 00 E. O. Mills.....
Orange Cit		364	1 36 D. W. Gross.....
Oxford ..		126	2 33 Eugene Henely.....
Oxford Jur		204	1 30 W. E. Fleming.....
Pacific Jur		151	1 55 J. S. Le Page.....
Panora....		194	1 43 F. E. Green.....
Parkersbu		219	1 76 O. A. Draper.....
Paullina		149	1 85 G. L. Washburn.....
Peterson ..		114	1 58 E. N. Duroe.....
Pasantvl		166	1 26 P. B. Woods.....
Pomeroy ..		192	1 16 J. T. Fackler.....
Postville ..		195	1 54 F. V. Hunt.....
Prairie Cit		225	1 33 J. M. Martindale.....
Prescott ..		128	1 37 A. O. Peckham ..
Preston ..		143	1 36 Grant Farley.....
Primghar		214	1 40 J. J. Billingsley.....
Radcliffe ..		122	1 60 H. V. Hunt.....
Randolph..		128	1 56 L. B. Stewart.....
Redfield...		135	1 50 J. H. Ellison.....
Reinback..		248	1 61 O. M. Elliott.....
Rhodes ..		109	1 70 Grant Flora.....
Riceville..		173	1 60 H. E. Blackmar.....
Richland..		123	1 39 A. L. Thorburn ..
Riverton ..		175	1 01 B. M. Taylor.....
Riverside..		117	1 49 L. A. Wescott.....
Rockford ..		259	1 49 L. B. Moffett.....
Rock Vall		200	1 06 W. E. Collins.....
Rockwell ..		166	1 14 Sue E. Treston.....
Rockwell		226	1 45 P. C. Holdoegel.....
Roland ..		94	1 80 F. Slawter.....
Rolfe ..		174	1 52 T. J. Loar.....
Russell...		118	1 39 G. L. Gillies.....
Ruthven...		218	87 J. C. Bennett.....
Sabula ..		201	1 12 J. M. Davis.....
Salem.....		120	1 20 J. A. Rice.....
Sanborn ..		296	1 44 R. B. Daniel.....
Scranton ..		200	1 10 W. H. Meek.....
Sergeant's		132	1 74 J. H. Burgess.....
Sheffield...		153	1 25 W. J. Flint.....
Shelby...		213	1 60 C. S. Cobb.....
Schalter.....	9 0	187	1 35 A. B. Miller.....
Shell Rock.....	9 0	151	1 97 C. E. Buckley.....
Shellsburg.....	9 0	142	1 30 Chas Severance.....
Sibley ..	9 0	200	1 70 B. T. Green.....
Sidney ..	9 0	216	1 63 S. M. Mowatt.....
Sioux Center..	9 0	150	1 23 L. H. Andrews.....
Sioux Rapids...	8 5	204	1 24 L. Herzelwood.....
Sloan ..	9 0	173	1 86 W. N. Orris.....
Spirit Lake ..	9 0	200	1 62 W. T. Davidson ..
Springdale.....	9 0	95	2 16 C. Davis.....
Springville.....	9 0	158	1 72 S. S. Milligan.....
St. Ansgar ..	8 0	150	1 31 J. E. Vance.....
St Charles.....	8 0	112	1 21 L. J. Little.....
Stanton ..	8 0	168	1 17 C. A. Olson.....
Stanwood ..	9 0	104	1 67 A. Wilson ..
State Center...	9 0	251	1 70 Lucy Curtis.....
Steamboat Rock	8 5	92	1 95 H. E. Button.....
Story City ..	9 0	146	1 23 F. W. Shultis.....

* In city of Des Moines.

GRADED SCHOOLS—CONTINUED.

NAMES OF CITIES OR TOWNS.	Number months school.	Enumeration be- tween 5 and 21 in 1896.	Enrolled in school in 1895-6.	Average attend- ance, 1895-6.	Average tuition per month for each scholar in av. attendance.	NAME OF SUPERIN- TENDENT OR PRINCIPAL, 1895-6.	Annual salary.	Number of other teachers.	Average salary per month of assist- ant teachers.
Strawberry P't.	9.0	295	259	208	1 28	F. H. Slagle.....	\$ 675	5	\$ 38 00
Sutherland.....	9.5	273	231	161	1 49	M. P. Fobes	760	4	40 00
Sumner.....	9.0	487	390	268	1 01	J. W. Dickman.....	675	7	30 90
Swan.....	8.0	216	198	119	1 18	M. G. Metcalf.....	400	3	30 00
Tabor.....	9.0	330	289	171	1 34	Miss A. L. Blakely.....	630	4	40 00
Tingley.....	9.0	152	158	127	1 37	E. T. Sanders.....	560	3	37 14
Traer.....	9.0	406	365	315	1 27	R. A. Kletzing.....	1000	7	41 40
Union.....	9.0	248	207	149	1 56	A. J. Oavana.....	675	4	39 25
Ute.....	9.0	143	138	95	1 67	H. A. Ticker.....	450	3	35 00
Vail.....	9.0	275	143	98	2 13	Z. T. Hawk.....	800	3	40 00
Valley Junction.	9.0	337	220	170	1 00	Lewis Morris.....	540	3	37 00
Van Meter.....	9.0	176	176	108	1 55	D. S. Thompson.....	540	3	35 66
Van Horne.....	9.0	182	168	104	1 68	John McCarty.....	585	3	36 66
Victor.....	9.0	237	250	196	1 40	S. T. May.....	675	5	40 00
Volga City.....	9.0	153	153	125	1 39	R. E. Moss	540	3	37 66
Walker.....	9.0	216	180	109	1 61	O. W. Yerger.....	630	3	35 00
Wall Lake.....	9.0	195	181	136	1 43	Nina Marshall.....	675	3	40 00
Walnut.....	9.0	336	305	230	1 60	M. E. Grosier.....	1080	6	43 75
Wapello.....	8.5	400	351	268	1 23	J. W. Cradler.....	765	6	40 00
Washta.....	9.0	175	160	107	1 66	Wm. Durant.....	523	3	40 00
Waucoma.....	9.0	213	194	136	1 17	F. E. Finch.....	585	3	31 66
Wellman.....	9.0	189	169	120	1 46	Daniel Swindler.....	630	3	35 00
West Bend.....	9.0	229	169	122	1 33	R. H. Case.....	540	3	35 00
West Branch.....	8.0	249	230	189	1 52	O. H. Atkinson	900	4	40 00
West Burlington.	10.0	462	261	206	1 00	Annie S. Hogan.....	500	4	39 00
West Liberty....	9.0	423	398	299	1 71	L. T. Hill.....	1000	9	44 50
West Side.....	9.0	184	176	139	1 87	O. N. Brones.....	720	4	45 00
Wheatland.....	9.0	244	173	141	1 27	J. J. Moser.....	630	3	36 67
Whiting.....	9.0	306	171	169	1 38	J. W. Robey.....	750	4	39 00
Williamsburg...	9.0	353	366	257	1 21	A. T. Hukill.....	1200	7	44 57
Wilton.....	9.0	421	364	267	1 40	P. A. McMillen	760	7	41 38
Winfield.....	8.0	222	203	151	1 45	H. H. Baker.....	480	4	40 00
Winthrop.....	9.0	170	170	135	1 19	W. H. Hoover.....	595	3	32 00
Woodbine.....	9.5	401	710	414	1 07	M. A. Reed	700	7	52 85
Wyoming.....	9.0	277	245	192	1 35	L. Buchanan.....	810	4	42 50

HIGH SCHOOL STATISTICS.

FROM CITIES AND TOWNS OF OVER 1,000 BY THE CENSUS OF 1900.

† No high school. ‡ No report.

HIGH SCHOOL STATISTICS—CONTINUED.

* Including normal department. † No high school.

HIGH SCHOOL STATISTICS—CONTINUED.

* Including normal department. † No report.

COUNTY SUPERINTENDENTS OF SCHOOLS.

TERM OF OFFICE—JANUARY, 1900, TO JANUARY, 1902.

COUNTY.	SUPERINTENDENT.	POSTOFFICE.
Adams	*A. A. Taylor	Greenfield.
Antelope	I. P. Clark	Corning.
Benet	*J. F. Smith	Waukon.
Boone	E. W. Adamson	Centerville.
Box	†D. P. Repass	Audubon.
Boyd	*A. W. White	Vinton.
Butter	W. W. Brittain	Waterloo.
Calhoun	†B. P. Holst	Boonsboro.
Cherokee	*L. C. Oberdorf	Waverly.
Chickasaw	†W. E. Parker	Independence.
Chippewa	J. E. Durkee	Sioux Rapids.
Columbia	*F. E. Howard	Allison.
Concord	*R. W. Murphey	Rockwell City.
Cotton	*J. J. McMahon	Carroll.
Crawford	H. B. Newcomb	Atlantic.
Cedar	J. W. Marker	Tipton.
De Kalb	*Eugene Brown	Mason City.
Dodge	Agnes J. Robertson	Cherokee.
Dubuque	*C. S. Cory	New Hampton.
Dickinson	Lillie Thomas	Osceola.
Dixon	*Mrs. Ellen Reed	Spencer.
Dodge	*Sumner Miller	Guttenberg.
Dodge	G. U. Gordon	Clinton.
Dodge	W. T. Wright	Denison.
Dodge	A. C. Hutchins	Adel.
Dodge	C. W. Huff	Bloomfield.
Dodge	J. E. Cummins	Leon.
Dodge	L. T. Eaton	Manchester.
Dodge	M. B. Shaw	Burlington.
Dodge	*H. A. Welty	Spirit Lake.
Dodge	*B. J. Horchem	Dubuque.
Dodge	H. H. Davidson	Eatherville.
Dodge	*F. H. Bloodgood	West Union.
Dodge	*W. H. Allis	Nora Springs.
Dodge	*Emily Reeve	Hampton.
Dodge	*H. A. Simons	Sidney.
Dodge	†W. E. Jenison	Jefferson.
Dodge	†W. W. Taylor	Grundy Center.
Dodge	C. M. Young	Guthrie Center.
Dodge	W. F. Cole	Webster City.
Dodge	*S. L. Thompson	Garner.
Dodge	*C. H. Marsh	Eldora.
Dodge	*C. L. Crow	Logan.
Dodge	Ed. L. Roth	Mount Pleasant.
Dodge	F. A. McPherson	Cresco.
Dodge	O. S. Ophelm	Humboldt.
Dodge	*J. C. Hagler	Ida Grove.
Dodge	*W. P. Johnson	Marengo.
Dodge	A. F. Kearney	Maquoketa.
Dodge	*Minnie A. Walsh	Newton.

*elected. † Re-elected more than once.

REPORTS OF COUNTY SUPERINTENDENTS.

COUNTY SUPERINTENDENTS OF SCHOOLS—CONTINUED

TERM OF OFFICE—JANUARY, 1896, TO JANUARY, 1898.

COUNTY.	SUPERINTENDENT.	POSTOFFICE.
Akers	Laura B. Swan	Fairfield.
Anderson	*S. K. Stevenson	Iowa City.
Antelope	*T. J. Cowan	Anamosa.
Ashtabula	*S. A. Potts	Sigourney.
Aurora	†B. F. Reed	Algona.
Barnett	*A. L. Belles	Mount Hamilton.
Bassett	*N. H. Richards	Marion.
Baxter	†Lizzie Hughes	Wapello.
Bay	C. F. Goltry	Chariton.
Beaumont	L. A. Dailey	Rock Rapids.
Bellevue	*J. J. Crossley	Winterset.
Belmont	*Florabel Patterson	Oskaloosa.
Benton	*R. G. Mulky	Knoxville.
Berkeley	*C. W. Bacon	Marshalltown.
Bethesda	Viva Gilliland	Glenwood.
Bethesda	†R. C. Barrett	Osage.
Bethesda	F. E. Lark	Onawa.
Bethesda	Mrs. Angie Reitzel	Albia.
Bethesda	J. W. Clark	Red Oak.
Bethesda	J. A. Townsley	Muscatoine.
Bethesda	†Ella Beckerson	Primghar.
Bethesda	T. S. Redmond	Sibley.
Bethesda	H. E. Deater	Clarinda.
Bethesda	*Bessie Larsen	Emmettsburg.
Bethesda	*J. Wernli	Le Mars.
Bethesda	*Cleland Gilchrist	Pocahontas.
Bethesda	†W. A. McCord	Des Moines.
Bethesda	W. S. Paulson	Council Bluffs.
Bethesda	*W. C. Rayburn	Grinnell.
Bethesda	J. W. Wilkerson	Mount Ayr.
Bethesda	J. W. Jackson	Sac City.
Bethesda	†C. L. Saksdorf	Davenport.
Bethesda	*Paul Peterson	Harlan.
Bethesda	M. M. Mishler	Orange City.
Bethesda	G. W. Phillips	Nevada.
Bethesda	A. L. Speaker	Toledo.
Bethesda	F. E. Crosson	Bedford.
Bethesda	†Charles Emerson	Creston.
Bethesda	*A. B. Goss	Keosauqua.
Bethesda	*Joseph Parks	Ottumwa.
Bethesda	*Edd R. Guthrie	Indianola.
Bethesda	Cornelia Klass	Washington.
Bethesda	Carrie M. Goodell	Corydon.
Bethesda	†C. V. Findlay	Fort Dodge.
Bethesda	*L. C. Brown	Forest City.
Bethesda	G. O. Haugen	Decorah.
Bethesda	*E. A. Brown	Sioux City.
Bethesda	*S. B. Toye	Northwood.
Bethesda	†G. T. Eldridge	Clarion.

* Re-elected. † Re-elected more than once.

1897.

ABSTRACT

COUNTIES.	DISTRICTS.		SCHOOLS.			TEACHERS.		
	District town- ships.	Number of sub- districts.	Ungraded.	Rooms in graded.	Av. duration in months.	Number employed.		Av. com- pensation.
						Males.	Females.	
Adair.....	16	187	138	28	8.1	58	250	33
Adams.....	9	75	104	25	8.2	50	185	33
Allamakee.....	9	67	126	25	7.2	38	195	33
Appanoose.....	13	95	134	22	7.2	86	201	33
Audubon.....	12	106	105	22	8.2	53	171	34
Benton.....	10	88	172	55	8.2	91	280	34
Black Hawk.....	10	78	141	72	8.2	75	278	35
Buene.....	11	95	147	69	7.9	85	264	35
Bremer.....	6	44	98	22	7.7	23	176	42
Buchanan.....	9	76	133	50	8.2	47	235	35
Burns Vista.....	15	127	136	26	8.1	45	246	35
Butler.....	11	95	133	40	8.2	40	261	36
Calhoun.....	14	125	126	26	7.9	58	241	36
Carroll.....	13	107	133	45	8.2	80	186	36
Cass.....	15	120	139	60	8.6	65	285	40
Cedar.....	12	100	123	47	8.2	46	222	41
Cerro Gordo.....	13	93	130	62	8.1	48	225	38
Cherokee.....	15	127	134	40	8.3	68	232	36
Chickasaw.....	5	53	112	30	7.8	41	169	34
Clarke.....	9	77	101	24	7.4	52	168	28
Clay.....	16	126	125	23	7.6	59	187	30
Clayton.....	17	141	168	62	7.9	65	345	36
Clinton.....	17	183	159	124	8.9	88	307	51
Crawford.....	20	166	165	42	8.3	78	274	36
Dallas.....	13	116	141	66	7.8	78	232	36
Davis.....	8	39	97	24	6.7	55	117	32
Decatur.....	9	66	111	43	7.8	56	178	31
Delaware.....	14	111	126	37	8.4	41	258	38
Des Moines.....	5	25	81	123	6.8	50	201	55
Dickinson.....	13	68	71	17	7.3	24	115	36
Dubuque.....	10	67	126	120	9.1	35	243	63
Emmet.....	10	55	73	20	7.5	20	108	36
Fayette.....	13	106	177	54	7.7	60	208	34
Floyd.....	11	109	112	46	8.2	32	212	30
Franklin.....	12	101	136	29	7.9	39	216	36
Fremont.....	11	99	113	43	8.5	67	215	37
Greene.....	14	123	137	32	8.2	49	222	35
Grundy.....	10	35	121	22	8.3	65	184	34
Guthrie.....	14	128	129	45	8.0	73	250	34
Hamilton.....	15	112	122	32	7.8	81	220	33
Hancock.....	16	125	124	24	7.8	45	149	36
Hardin.....	8	75	137	60	8.0	73	250	39
Harrison.....	16	109	137	61	8.3	71	261	40
Henry.....	4	32	95	28	7.7	50	213	35
Howard.....	11	87	94	24	7.9	47	160	34
Humboldt.....	10	85	102	25	7.9	30	157	36
Ida.....	12	5	100	28	8.4	48	187	30
Iowa.....	10	65	79	127	8.2	73	220	33

REPORTS FOR 1897.

STATISTICS.

COUNTIES.	DISTRICTS.			SCHOOLS.	TEACHERS.		
	District town- ships.	Independent dis- tricts.	Number of sub- districts.		Number employed		Av n compe
					Males.	Females.	Males.
Jackson.....	14	46	107	.2	64	217	30.3
Jasper.....	17	29	158	.9	64	310	33.1
Jefferson.....	9	28	68	.7	56	169	33.5
Johnson.....	16	43	116	.2	57	346	36.1
Jones.....	9	65	70	.2	54	242	37.2
Keokuk.....	3	115	24	.6	34	217	35.5
Kossuth.....	23	8	193	.9	60	265	34.4
Lee.....	7	65	46	.9	51	214	49.7
Linn.....	11	73	106	.4	63	436	37.4
Louisa.....	9	26	60	.1	49	136	36.8
Lucas.....	4	59	33	.5	45	141	42.0
Lyon.....	12	18	61	.1	58	160	37.1
Madison.....	13	29	103	.4	57	231	30.7
Mahaska.....	9	74	68	.3	63	264	36.0
Marion.....	4	112	22	.7	62	317	35.9
Marshall.....	12	67	92	.3	78	263	39.6
Mills.....	5	62	21	.4	33	150	45.9
Mitchell.....	6	47	58	.0	46	172	35.3
Monona.....	17	14	123	.2	64	341	23.8
Monroe.....	6	43	49	.4	39	145	32.1
Montgomery.....	10	23	85	.3	46	313	41.4
Muscatine.....	11	26	67	.7	41	207	45.0
O'Brien.....	16	9	119	.0	63	193	26.8
Osceola.....	9	5	62	.3	37	123	36.3
Page.....	11	46	83	.2	64	220	39.9
Palo Alto.....	16	4	119	.5	43	159	34.3
Plymouth.....	23	7	154	.4	54	223	36.4
Pocahontas.....	15	13	127	.7	54	189	34.0
Polk.....	13	60	93	.5	96	488	51.8
Pottawattamie.....	25	25	213	.7	106	445	41.0
Poweshiek.....	14	23	118	.2	65	276	37.4
Ringgold.....	12	36	95	.8	85	176	30.3
Sac.....	16	8	131	.3	69	232	33.6
Scott.....	13	37	79	.5	63	317	62.3
Shelby.....	16	9	133	.7	104	302	35.3
Sioux.....	19	14	146	.7	66	160	26.8
Story.....	14	26	115	.8	76	232	36.3
Tama.....	13	78	96	.2	65	394	39.3
Taylor.....	13	26	100	.2	72	216	34.4
Union.....	19	23	89	.5	43	263	37.6
Van Buren.....	8	46	66	.2	59	175	35.7
Wapello.....	8	49	53	.6	63	236	37.9
Warren.....	6	49	52	.8	60	247	33.6
Washington.....	6	65	49	.0	73	235	34.6
Wayne.....	13	33	90	.3	93	189	33.2
Webster.....	13	42	135	.8	75	269	33.9
Winnebago.....	11	5	78	.1	43	113	33.7
Winnebeshiek.....	14	46	96	.3	57	310	33.1
Woodbury.....	17	37	131	.6	84	457	43.7
Worth.....	13	4	85	.3	36	115	31.7
Wright.....	16	7	125	.0	55	233	38.7
Totals.....	1190	3647	9311	1	5824	22208	37.01

REPORT OF THE

ABSTRACT [B]—REPORTS FOR 1897.

SCHOOL FINANCES.

COUNTIES.	TEACHERS' FUND.						
	DEBIT.				Total debit or credit.	CREDIT.	
	On hand at last report.	Received from district tax.	Received from semi-annual apportionment.	Received from other sources.		Paid teachers.	Paid for other purposes.
air.....	20275 73	882785 80	7180 43	1181 52	81375 48	49078 30	408 01
ama.....	13102 06	24583 76	8097 75	838 99	46932 56	33832 37	638 70
amakee.....	9150 23	39016 60	5617 78	677 66	44792 27	38516 32	189 19
panose.....	21940 30	35074 95	7404 09	324 33	64723 71	41364 79	518 31
dubon.....	12896 53	30623 84	4044 21	764 55	49229 13	35523 54	15 68
nton.....	26802 07	53549 63	11907 30	1204 33	95403 33	61951 35	726 25
ick Hawk.....	27702 59	60710 00	10534 81	513 31	99490 71	78661 29	215 59
one.....	26218 61	49327 19	9763 26	166 13	84475 19	58956 13	53 13
amer.....	17458 12	28026 40	5 85 28	1257 84	49737 64	813 3 63	381 47
chanan.....	21708 10	40690 51	5318 19	602 62	71349 42	4900 82	1349 86
ena Vista.....	20017 60	41526 48	6557 80	1961 71	70665 19	48546 19	40 55
tler.....	23143 88	42173 61	6628 05	1373 09	73316 63	47834 33	577 89
lboun.....	27086 80	44308 85	6838 11	626 76	78310 52	47195 72	1043 72
roll.....	21776 62	47530 39	6964 00	1256 91	77529 93	53009 11	556 15
as.....	37551 07	51078 59	10598 11	1431 52	106554 29	64061 55	129 98
lar.....	30415 95	42091 54	8458 11	2057 69	83023 46	52150 30	909 64
ro Gordo.....	31872 97	45698 69	7053 80	727 95	85351 91	60930 45	1042 80
rokee.....	20698 04	44038 97	7128 10	721 95	72583 06	62997 17	816 55
ickasaw.....	11660 08	29975 66	5238 26	1109 45	48043 66	34308 33	390 05
rke.....	10584 61	21963 06	5498 06	488 14	38523 91	37161 21	89 05
y.....	14247 24	34415 45	5970 21	1041 48	55574 38	36975 06	81 22
yton.....	23948 44	44921 35	9899 72	1723 81	80193 33	56201 12	527 81
nton.....	37501 81	86227 87	12578 60	3945 69	14923 00	100012 73	3768 43
wford.....	26396 23	53227 10	11345 88	1134 46	92103 77	59709 61	150 43
llas.....	23979 73	55011 66	10152 69	2896 23	92042 24	63530 61	1611 37
via.....	8060 00	16359 99	5895 53	265 57	30541 89	23515 61	83 49
catur.....	16620 00	31338 84	5391 34	1598 60	54948 58	31146 73	1228 92
laware.....	21219 99	35112 75	6838 54	773 41	64984 69	42900 05	90 00
Moinea.....	16931 66	76180 20	10641 69	1617 21	104750 96	89367 13	208 16
kinson.....	6730 10	16357 65	3940 11	1129 20	31137 06	21308 00	213 29
buque.....	15944 40	74892 40	20517 47	410 65	111864 92	97177 03	259 46
met.....	4744 60	21039 62	3088 45	309 11	29085 04	24273 49	206 65
yette.....	24200 55	44320 04	9345 11	1116 04	79091 74	53955 56	1054 08
yd.....	14251 74	37614 50	6619 81	1160 37	59876 42	44211 23	240 94
uklin.....	22691 09	34801 03	5978 96	791 16	66262 24	41325 56	80 35
emont.....	30857 25	39170 24	7435 89	1521 46	78934 86	49478 15	349 95
ene.....	28093 57	39673 34	6879 89	1116 14	75283 41	46068 97	489 10
undy.....	21977 53	36108 08	6029 85	437 72	67854 13	39717 42	110 71
thrie.....	28446 03	42985 87	7491 81	478 68	79403 39	50631 91	79 88
milton.....	21538 65	40690 28	5817 26	1038 40	69334 57	46141 70	730 51
ndcock.....	14795 96	31773 33	3966 67	539 33	54064 24	39299 50	1008 77
rdin.....	38131 96	55517 69	9630 05	493 97	103774 67	58771 56	232 69
rrison.....	41874 04	55097 81	9431 86	2015 08	111409 74	63930 06	781 04
ury.....	16112 23	29457 99	8512 08	391 45	54673 75	36367 57	1550 28
ward.....	7343 31	28569 73	4904 82	2108 71	43923 59	36676 01	867 70
mboldt.....	14432 29	30078 80	4195 84	847 41	49557 84	33846 43	106 70
l.....	19918 55	30708 85	5562 40	690 46	57010 26	37429 21	1223 61
wa.....	23537 11	39909 01	6777 53	4041 60	74265 23	50913 60	584 83

ABSTRACT [B]—REPORTS FOR 1897—CONTINUED.

SCHOOL FINANCES, 1897.

COUNTY.	TEACHERS' FUND.							
	DEBIT.				Total debit or credit.	CREDIT.		
	On hand at last report.	Received from district tax.	Received from semi-annual apportionment.	Received from other sources.		Paid teachers.	Paid for other purposes.	On hand.
Adams.....	28448 95	42851 53	9851 82	2070 90	84023 18	50625 10	11184 17	33368 91
Albermarle.....	31954 83	53881 98	11004 19	1387 35	98231 85	64530 15	756 84	33045 46
Amherst.....	13000 81	24623 21	7407 61	804 21	46836 26	31131 49	357 79	14714 96
Anderson.....	17887 06	47691 27	10835 81	1388 17	77901 81	59554 35	278 84	18068 63
Antietam.....	28841 17	41126 05	10364 12	4387 94	78719 28	49115 08	3427 69	26176 51
Armstrong.....	82372 53	41576 95	12671 94	1454 68	99076 10	53411 40	332 98	84321 73
Ashtabula.....	22288 48	64217 13	7399 22	1428 81	85411 68	60222 95	1537 25	29570 48
Ashland.....	15262 23	53254 67	14099 29	1049 10	83665 58	70074 02	290 81	12900 75
Ashmun.....	37941 25	99524 12	185 0 98	2594 01	158572 36	116032 01	846 82	41643 78
Ashtabula.....	12482 92	25312 01	5353 55	1569 84	44917 86	31496 86	88 89	13324 12
Ashtabula.....	1847 71	20085 03	6412 85	399 87	46236 47	26299 80	225 11	17711 56
Ashtabula.....	15603 82	45412 76	4109 66	1564 88	66639 93	44692 92	187 76	21908 25
Barren.....	17268 40	31479 27	6918 00	444 42	56110 09	37480 36	304 09	18325 64
Barren.....	32837 80	54542 26	10406 91	632 87	98733 16	65245 38	470 91	33022 87
Barren.....	27492 44	38738 21	7183 85	703 88	74108 89	46061 23	351 40	27495 76
Barren.....	60958 13	69878 85	10273 62	2017 49	143134 09	79558 75	16146 48	48018 86
Barren.....	27135 18	32060 21	7871 80	1367 00	68434 79	40940 06	466 84	27027 89
Barren.....	12908 05	32429 85	5758 36	1178 90	51766 10	37238 61	696 95	13830 59
Barren.....	21412 59	40910 14	5860 00	1112 50	69326 23	45440 74	437 76	23416 71
Barren.....	11822 78	21704 23	5834 48	680 65	39492 14	27097 19	141 73	1234 22
Barren.....	18599 50	42080 62	7147 04	615 93	66444 09	48368 49	152 62	19058 98
Barren.....	19040 76	60971 00	11210 85	1578 16	82800 80	63011 84	1197 06	18541 90
Barren.....	21254 97	46174 43	4542 37	1806 85	73880 61	51718 68	415 10	21746 83
Barren.....	10759 71	24060 67	4208 14	1020 33	39948 85	29068 11	430 65	10496 09
Barren.....	26347 45	48796 41	9369 54	1596 27	66009 77	57737 35	1648 80	26623 63
Barren.....	30156 44	31618 97	8537 42	1190 12	4496 95	35976 11	1839 80	9781 04
Barren.....	23224 43	54534 95	8828 43	931 88	87640 54	64743 31	215 88	22621 85
Barren.....	16772 29	33401 91	5 53 53	788 45	56016 21	40536 03	251 14	14639 04
Barren.....	94478 30	176820 86	27768 20	2604 69	301074 05	204080 78	2411 86	92581 41
Barren.....	58802 17	127197 94	16956 41	875 52	205231 34	140358 57	548 62	64332 15
Barren.....	30760 21	50472 84	9422 86	1500 34	63146 25	54852 08	210 22	26964 00
Barren.....	17763 51	31039 48	5868 70	898 56	54481 24	37415 65	107 22	16958 37
Barren.....	33243 14	41084 54	6502 90	961 47	81837 05	44972 80	98 24	36771 01
Barren.....	23064 07	105787 12	16094 99	2299 18	158126 26	118978 83	476 36	36770 67
Barren.....	28415 09	43066 15	7125 45	489 23	79 84 92	51101 22	1 8 36	26990 84
Barren.....	26498 51	67779 76	9238 14	1087 32	104538 72	71812 71	3167 06	29557 94
Barren.....	32033 66	48011 76	7654 85	577 22	83577 71	51006 37	266 02	32308 42
Barren.....	36671 35	48924 23	11838 26	2371 12	99504 97	64943 99	447 08	34112 95
Barren.....	19463 19	28868 80	5251 83	1921 30	65990 14	47066 99	127 92	18906 23
Barren.....	11869 71	41768 05	6437 15	6004 20	66069 11	48308 43	5068 36	12698 27
Barren.....	21419 46	26854 65	6681 13	1090 76	55016 06	33254 84	110 32	21650 84
Barren.....	23323 18	61734 59	12099 60	748 82	97878 19	78969 51	76 14	23927 54
Barren.....	23066 79	32028 95	8497 85	853 66	66386 25	39714 99	406 19	26243 07
Barren.....	23479 46	34681 57	9614 41	3857 67	70183 11	44 06 45	00 00	24546 26
Barren.....	22347 07	27178 05	6141 54	1614 00	58179 66	33881 94	324 40	23973 23
Barren.....	23018 62	47667 14	8335 71	980 75	79902 22	58365 82	8840 67	17286 73
Barren.....	9666 89	23323 77	3718 52	567 28	37175 40	25410 25	1360 00	10265 15
Barren.....	17281 47	34254 53	7585 81	979 04	600 0 84	40431 01	1348 31	18271 62
Barren.....	85773 98	118529 80	18909 73	1649 74	234763 25	145641 98	604 34	78596 98
Barren.....	6944 88	20508 24	4671 83	1244 74	33469 69	22808 84	00 00	10661 05
Barren.....	28168 77	46904 98	5876 79	1579 64	79960 18	49342 50	143 50	29445 18
Totals.....	2948106 77	4450044 92	816044 27	129196 84	7752391 20	5264353 70	62996 32	2405044 28

COUNTIES.	SCHOOLHOUSE FUND.							
	DEBIT.			Total debit or credit.	CREDIT.			
	On hand at last report.	Received from district tax.	Received from other sources.		Paid for school-houses and sites.	Paid on bonds and interest.	Paid for libraries and apparatus.	Paid for other.
Adair...	\$ 2746 87	\$ 8853 28	\$ 485 65	\$ 7085 80	\$ 1892 13	\$ 2365 23	.....	\$ 12 42
Adams	1109 76	2747 99	2482 02	6339 77	2654 24	852 16	.....	4 42
Allamakee.....	1748 86	6078 66	1037 18	8863 65	5148 38	1828 02	\$ 70 14	2 42
Appanoose.....	3 58 49	12392 28	6077 65	21728 40	4590 12	11160 46	645 38	43 42
Audubon.....	457 54	4377 14	8339 62	13164 30	514 47	10520 49	.....	14 42
Benton.....	8080 03	6425 51	727 84	10183 38	3998 44	3274 07	63 67	6 42
Black Hawk.....	988 23	12183 99	53756 92	66876 18	29951 31	28612 62	.....	3 42
Boone	2493 14	10291 18	440 13	12724 45	1271 11	3178 75	.....	16 42
Bremer.....	1303 62	1710 97	759 78	3774 25	592 67	15-0 66	.....	9 42
Buchanan.....	3546 74	8649 29	1557 92	8753 95	748 40	6-47 5-1	6 00	2 42
Buena Vista.....	3669 97	9-8 87	570 44	19-26 06	20-23 67	7469 91	.....	13 42
Butler.....	2218 77	4391 44	4417 46	11227 69	3961 66	1961 83	.....	3 42
Calhoun.....	1689 62	6927 62	2811 03	19428 27	5796 64	2465 67	.....	3 42
Carroll.....	4531 02	5968 61	.....	10479 43	590 00	34-29 96	18 00	26 42
Cass	3902 63	7083 02	2162 10	13147 65	2926 25	5493 97	.....	16 42
Cedar	1286 74	6403 00	125 64	7617 38	6607 91	1963 61	.....	1 42
Cerro Gordo.....	4175 67	11881 61	5546 94	21403 2	10281 41	3735 06	.....	60 42
Cherokee.....	3499 80	8044 77	4646 96	16181 55	1233 62	3917 64	546 89	16 42
Chickasaw.....	1844 17	3765 41	406 78	5614 36	1109 26	1961 0	.....	11 42
Clarke.....	3547 77	3805 45	1282 50	8433 72	2016 47	4601 57	.....	1 42
Clay	1580 00	6037 26	1-8 86	6756 72	3748 02	702 91	.....	6 42
Clayton.....	1896 34	3784 12	293 14	8113 60	1446 85	3761 34	.....	10 42
Clinton	4858 21	11548 66	12724 67	29181 44	15511 59	5328 25	.....	34 42
Crawford.....	1402 33	6095 49	411 69	7909 41	3119 40	3263 91	325 00	1 42
Dallas.....	3495 89	4445 95	3465 09	11406 93	571 56	6009 81	.....	9 42
Davis	704 60	137 80	18 76	2097 06	38 00	1945 53	.....	4 42
Decatur	750 17	4928 29	746 16	6424 64	1425 54	2626 10	.....	7 42
Delaware.....	3010 25	5523 92	15 23	8549 40	1980 96	3129 03	50 00	3 42
Des Moines.....	7747 94	10286 19	28476 71	44510 84	30631 56	19019 06	.....	6 42
Dickinson.....	1583 41	5294 65	2689 78	9716 84	3363 63	1663 98	654 38	15 42
Dubuque.....	1506 24	12020 66	412 77	12973 67	893 42	10636 26	14 66	8 42
Emmet.....	1939 66	9151 44	171 82	11263 92	6540 66	1253 60	56 17	4 42
Fayette.....	2330 04	3687 36	4575 41	10792 80	4399 61	2634 39	.....	9 42
Floyd	800 95	4479 43	.....	5280 38	827 63	3658 65	.....	1 42
Franklin.....	4836 10	6503 46	412 88	11772 46	5688 64	1528 35	.....	15 42
Fremont.....	3268 75	6490 22	6-46 47	16703 44	6560 17	5045 50	64 48	15 42
Greene.....	2353 24	4'00 91	130 48	7084 66	3422 96	2313 50	.....	6 42
Grundy.....	621 79	4484 54	15728 24	20194 61	13658 65	1257 67	11 67	14 42
Guthrie	10531 53	7696 77	100 33	18331 63	9633 47	3297 07	349 73	17 42
Hamilton.....	3617 73	7115 59	308 18	11041 40	1647 73	3426 08	.....	14 42
Hancock.....	5511 41	10840 16	1043 94	17394 53	6072 99	1817 67	159 48	30 42
Hardin.....	2670 78	11943 16	2307 92	16881 86	7061 66	4621 59	632 84	34 42
Harrison.....	1188 64	7378 42	9677 21	16244 47	5436 28	5697 60	.....	14 42
Henry	556 23	2970 87	12313 01	18040 11	10485 85	2916 22	1015 00	7 42
Howard.....	3-95 60	2345 81	23-5 46	8706 87	4909 74	1789 00	14 95	12 42
Humboldt.....	3073 90	4145 26	1109 65	8328 81	1625 90	3104 11	39 66	7 42
Ida	495 19	2187 46	1702 13	4384 78	676 72	2328 11	7 50	4 42
Iowa.....	2591 56	5186 73	55 60	7833 89	991 60	2349 52	20 00	6 42
Jackson	3475 20	6830 96	2478 02	12334 18	2596 18	2740 98	16 98	25 42
Jasper.....	2861 67	14044 18	3071 08	24476 93	9673 97	9907 87	12 45	14 42

REPORTS FOR 1897—CONTINUED.

FINANCES.

CONTINGENT FUND.

\$ 4490 48	\$ 18123 71	\$ 1011 51	\$ 18081 05	\$ 8790 84	\$ 1333 64	\$ 173 00	\$ 1334 27	\$ 1576 83	\$ 5017 03
9086 53	10647 86	1123 08	14965 46	5676 77	1004 78	243 67	1304 28	1686 98	4994 08
5750 71	9378 97	1047 40	15177 08	5672 82	1111 08	988 85	1210 99	678 19	5103 56
5673 67	15473 23	507 22	21554 12	10949 97	978 62	55 89	370 60	4261 73	4944 41
6290 92	11401 69	682 39	18385 00	7318 08	1038 60	207 42	1843 80	723 72	7709 23
10678 86	19478 99	1427 50	31280 65	13050 48	1841 64	494 76	1197 16	1800 09	12808 19
7517 20	23187 47	992 02	31607 29	15065 79	1521 24	1142 85	2541 11	3812 79	6770 40
4980 60	19155 30	2898 06	27469 02	13154 09	1886 27	385 11	1297 18	6382 38	5519 84
5516 43	9844 23	531 55	15206 20	6387 33	1129 82	62 51	1115 28	491 52	6405 72
5852 91	18060 94	2126 92	26941 77	8925 30	1263 74	355 86	1960 27	4576 12	9727 85
7063 50	16675 18	1667 52	26909 20	11376 26	1258 47	477 74	1626 63	1939 31	6744 28
16772 79	14697 59	242 43	25674 20	9465 76	1546 76	904 15	1275 51	1270 97	11070 58
6451 04	15971 69	1131 09	23543 81	10567 91	1552 79	263 68	1934 09	1668 35	7108 78
5527 70	16983 46	2514 41	26125 57	12063 25	1547 34	415 68	1777 54	577 70	7974 83
9038 48	17284 15	1195 62	27518 25	9436 33	1331 28	240 71	242 15	1624 49	10748 89
6222 51	13367 76	1101 17	21631 43	9106 30	1494 08	431 88	1446 88	583 37	9010 74
6374 85	21818 71	9687 67	20061 23	14895 69	1411 69	1053 18	1875 47	10101 89	6959 47
8753 17	17090 63	1140 79	20094 59	12382 23	1665 98	571 99	2319 59	1109 84	8915 53
3806 41	19533 67	1307 53	15649 61	6632 54	1106 13	284 94	828 60	1292 94	5347 06
4590 71	9028 06	70 29	13754 05	6991 29	1091 96	18 80	905 94	278 29	5411 06
5510 63	12627 45	1516 98	19651 46	6817 87	1085 82	1412 56	899 78	1062 29	2814 83
6709 24	12429 57	2126 20	24383 11	6896 99	1595 25	423 66	1043 41	1978 02	3392 74
11427 78	25603 49	1266 71	36309 98	17436 48	2243 25	793 67	3408 29	3069 07	11111 93
12986 96	17790 45	2200 12	32287 53	11288 76	1766 65	177 65	3917 26	1338 90	13110 07
2342 88	19846 77	2475 11	20566 26	11234 40	1780 20	1542 36	3426 77	1789 70	10827 37
3425 65	4619 63	817 73	10122 96	4100 27	913 73	214 80	542 78	431 26	2919 12
3498 88	10126 98	2310 51	15996 37	6482 46	1145 53	200 26	932 12	1049 37	3841 07
5235 82	11546 99	1292 67	19075 48	6450 63	1105 25	506 84	1177 34	698 15	6107 34
3158 69	25223 85	1513 57	30041 11	15812 96	1315 09	1206 83	2033 79	4773 61	3477 54
2594 67	8193 81	631 84	11440 31	4919 70	733 12	424 87	947 63	738 22	3577 27
6423 98	40935 74	402 07	47762 77	21772 59	2590 35	699 80	4836 15	1607 87	6312 73
2805 84	9879 68	729 18	12711 10	5942 00	714 01	769 87	1319 40	696 20	2855 52
5144 73	15662 06	1617 95	22424 76	10344 00	1691 15	201 06	1148 16	1497 32	7639 37
2964 68	15498 05	423 25	20064 96	9441 41	725 50	480 12	1109 41	1587 02	6791 51
6289 10	13756 90	1210 93	20456 98	5875 54	1422 68	411 12	2098 29	1083 46	8794 67
5029 28	14918 42	2061 70	24422 40	6965 23	1161 47	168 73	1568 56	7298 09	5950 96
5431 41	12047 55	1795 27	20274 33	7997 48	1345 22	58 65	3459 36	1023 06	5324 69
2662 84	11844 92	2744 61	12268 27	10177 86	1081 94	635 11	897 07	2310 49	8149 90
8378 01	15870 29	2073 05	26319 45	11878 56	1329 82	816 09	1580 12	2669 78	7811 65
6107 29	12472 83	2062 25	20624 37	7892 45	1461 75	1958 80	2708 43	2710 64	4012 20
6318 59	15519 60	1222 48	22201 67	8413 03	1045 92	774 84	1522 74	1168 84	3912 60
8811 68	19225 55	1954 97	30091 20	12126 59	1089 41	363 16	1808 73	2594 21	10937 01
9254 54	20172 08	2446 59	31872 21	13998 96	1564 53	273 18	2544 56	2751 66	10642 63
6978 60	9747 93	751 00	16577 83	6729 25	1226 06	87 40	1187 11	1030 40	6146 86
4279 13	10594 53	264 07	17622 73	6487 21	958 13	915 95	1480 54	3244 73	4736 17
5126 66	9583 46	1058 43	15795 57	6743 77	841 16	432 12	934 66	737 21	6076 94
4852 42	10686 75	1924 27	17462 44	8831 82	1078 83	625 22	460 06	1143 65	5800 41
6663 64	14127 66	2090 12	24986 42	9234 76	1566 52	451 72	1261 09	4497 64	6716 38
6231 58	12859 44	1698 45	21787 42	10540 42	1587 58	822 75	1225 73	1294 42	5634 12
10490 53	17165 63	1447 47	22102 63	12219 22	1445 00	761 97	1738 87	1606 02	9004 80

COUNTIES.	SCHOOLHOUSE FUND.						
	DEBIT.			Total debit or credit.	CREDIT.		
	On hand at last report.	Received from district tax.	Received from other sources.		Paid for school-houses and sites.	Paid on bonds and interest.	Paid for libraries and apparatus.
Jefferson	1451 64	4524 20	1112 73	7088 56	458 89	5158 90	37 98
Johnson	1561 14	6568 53	896 60	9026 27	3185 65	2108 88	...
Jones	5811 14	8872 49	1635 76	11819 39	3034 50	3221 52	33 08
Keokuk	8028 67	8317 81	1728 93	9071 51	...	3728 91	...
Kossuth	4389 10	15684 81	8389 47	28362 38	15615 31	1514 14	502 84
Lee	3790 37	9199 65	1770 90	14760 92	859 50	8809 51	1097 23
Linn .....	...	25061 11	602 09	25063 20	760 25	19747 69	9 61
Louisa	1390 58	2308 16	3048 21	6746 95	617 19	3323 22	44 17
Lucas	1519 56	4148 49	2161 20	7829 25	5111 29	1032 96	87 00
Lyon	19891 77	17114 89	3375 13	40381 79	12773 56	9861 65	758 23
Madison	263 09	2603 51	...	3865 70	301 43	2316 10	...
Mahaska	701 67	4346 85	30797 41	35845 93	26152 11	2536 63	23 59
Marion	704 78	5646 55	11717 62	18078 95	7833 67	3297 79	...
Marshall	3068 47	23838 51	11739 88	35186 86	5032 16	7355 77	...
Mills	1147 46	5153 68	2556 36	9856 50	4423 49	3097 90	5 00
Mitchell	1445 05	4975 26	957 47	7377 80	3499 19	2309 48	...
Monona	5273 11	6023 30	1635 45	13931 86	6639 86	1772 45	10 51
Monroe	632 01	3741 50	25 00	4408 51	1263 54	2467 95	50 18
Montgomery	1115 95	7107 35	299 31	8522 59	2266 83	3730 00	40 00
Muscataine	1764 78	2566 14	23364 18	32715 10	22518 84	9571 55	...
O'Brien	5004 71	8230 98	40 79	13275 48	5463 83	2416 74	173 00
Osceola	2585 65	5114 95	109 26	7809 86	1866 09	678 65	...
Page	3244 08	3823 75	103 09	7169 92	491 16	2568 24	57 86
Palo Alto	5529 10	7861 23	983 53	13373 86	8116 96	1803 25	6 44
Plymouth	6923 77	9776 18	16032 97	32732 92	7892 16	18888 96	369 89
Pocahontas	3167 01	4737 27	853 60	8757 88	3845 93	963 88	...
Polk	6496 32	47723 96	41886 75	95906 03	16815 76	51235 65	274 20
Pottawattamie	5540 90	10294 80	17523 14	42358 84	22261 16	8187 81	108 98
Poweshiek	3770 71	7537 29	6500 00	17808 10	13700 89	2198 50	56 48
Ringgold	1940 13	4803 89	2777 91	9521 93	4882 56	1554 49	25 50
Sac	1787 81	5708 32	416 83	7912 95	635 96	1268 94	73 20
Scott	1888 34	21373 72	9811 94	33073 00	20681 78	1209 50	105 50
Shelby	3172 18	5587 91	155 67	8915 76	4729 96	1595 60	2 75
Sioux	6251 21	14761 49	2535 74	23548 44	9043 87	5500 36	554 60
Story	2270 11	7346 79	1012 80	10629 70	1001 01	4365 40	62 48
Tama	4290 42	7713 90	3820 78	15824 10	3774 57	6525 40	...
Taylor	795 94	3087 45	1641 92	5525 31	...	1914 79	314 22
Union	6256 74	8198 07	613 81	15068 62	1121 02	7844 99	...
Van Buren	756 79	3566 22	1490 70	5813 71	3509 05	1027 82	25 10
Wapello	1712 06	12071 44	8308 96	22091 78	432 01	10605 20	19 96
Warren	1624 47	5917 12	1121 15	8662 75	2540 29	4480 60	...
Washington	6174 16	2893 75	31 32	11099 23	...	2195 93	119 23
Wayne	4316 71	5572 56	2229 25	12118 52	2086 89	5408 20	...
Webster	1836 71	7153 22	67748 40	75735 33	31198 93	43169 79	...
Winnebago	4231 35	6175 05	23406 16	33814 55	13590 75	16142 48	91 24
Winnebago	24481 01	3694 01	3075 58	30250 60	27595 88	515 06	435 85
Woodbury	3902 77	28788 18	9958 73	62649 68	28230 93	19444 52	68 07
Worth	1108 19	2243 77	407 50	3859 46	1061 74	1232 20	...
Wright	3026 78	6687 26	407 84	10121 88	1685 52	2761 88	...
Totals	222865 06	787170 50	554340 25	1545306 78	635485 37	549096 45	10241 88

RTS FOR 1897—CONTINUED.

UES.

CONTINGENT FUND.

DEBIT.		Total debit or credit.	CREDIT.						
Received from district tax.	Received from other sources.		Paid for fuel, rent, repairs, insurance and janitors.	Paid secretaries and treasures.	Paid for records, dictionaries and apparatus.	Paid for free textbooks.	Paid for general supplies.	Paid for other purposes.	On hand.
7333 73	209 30	11827 07	5539 77	859 30	281 00	357 40	951 04	3039 58	
23808 18	1010 78	31528 17	12776 28	1906 20	545 87	38 03	2827 26	2516 09	10720 78
18964 54	4488 30	23327 05	8679 85	1285 28	251 44	43 98	1139 06	4576 72	7163 98
12306 45	5483 31	20447 14	10735 74	1717 28	522 86	58 78	1135 77	4005 94	5165 85
20049 18	2385 98	20967 18	12109 97	1976 47	529 26	248 71	2129 21	2454 75	10820 98
18710 25	11847 31	34087 12	15012 65	1208 99	428 82	121 25	1957 67	10202 18	4215 89
40875 77	7585 48	62103 63	28184 44	2955 90	1431 57	274 89	2408 81	4623 35	17800 40
7983 50	1780 96	12001 49	5442 75	841 13	216 46	129 15	1410 07	858 78	3004 18
9222 57	707 90	12296 29	8562 24	1063 49	582 01	.....	721 42	1004 88	2429 25
17051 19	1571 85	25214 73	10829 25	1506 21	926 99	29 89	2321 95	2598 49	.....
11934 69	1068 85	19508 78	7905 68	1122 56	105 29	11 14	1189 68	2088 22	7144 61
20528 81	1196 05	27419 35	12996 62	1722 25	1197 00	.....	4091 31	625 41	8774 26
14022 26	8898 28	27109 80	10019 85	1753 02	498 60	601 72	2012 99	6577 85	5645 23
23564 34	4361 08	26865 23	16143 76	1442 56	227 19	2712 45	2021 42	1912 61	9775 24
11568 57	1288 07	16378 79	5557 48	1643 63	540 07	697 32	1695 15	2129 54	4805 27
11196 27	2622 72	16224 11	2116 89	900 24	249 51	18 70	1429 23	2668 70	2269 54
12465 58	1225 51	20186 03	7517 20	906 70	102 86	122 63	1795 97	1461 29	5116 43
7084 01	826 72	10914 69	4122 12	1022 86	422 71	228 83	666 42	1129 00	2049 68
14941 57	2087 92	21064 54	9428 66	1742 84	497 49	774 22	2522 00	1056 90	6225 11
27045 22	2270 79	24788 26	12414 45	1519 62	270 57	221 40	2942 69	6487 67	9811 29
14202 88	2059 12	20008 07	11426 91	1272 02	1070 69	.....	2022 22	1861 07	4922 05
7847 21	262 50	12527 12	2044 10	658 22	87 19	.....	629 64	1129 99	5885 06
16645 49	1407 61	22261 17	10724 29	1547 78	608 77	177 20	1472 19	2787 25	5947 29
11822 25	297 12	12127 12	1074 27	1155 26	178 40	.....	1587 79	1820 01	4982 41
19987 96	1048 00	21172 41	12222 42	2126 60	1291 59	27 84	1574 00	2771 49	11254 41
12276 16	2667 49	22907 11	10224 02	1286 27	222 08	247 20	1207 55	1225 02	9968 18
69229 25	11270 66	90907 80	45294 14	2124 29	1122 85	6177 22	10722 59	2984 52	20800 27
44961 27	8712 12	67668 07	22619 27	2210 00	1202 49	2026 52	2522 58	2984 61	21206 99
18042 26	512 65	25193 41	10068 62	1176 85	889 22	594 59	2224 20	210 02	2698 79
11972 84	1286 67	16819 80	9106 05	1072 66	485 29	45 49	1585 50	705 14	2679 47
12068 55	1645 50	23421 68	9502 15	1254 90	550 50	22 04	1216 14	998 42	8895 87
20012 79	8007 22	28145 28	19701 54	2122 22	991 16	6489 90	1525 74	2671 61	14597 61
12742 19	1911 09	26782 28	8742 42	1552 19	222 64	1272 57	2208 25	522 57	11101 64
24576 83	1862 09	26222 90	18009 91	2170 92	1998 24	46 25	1962 63	4945 11	9505 44
16207 25	2195 09	27804 54	10870 57	1598 28	408 27	214 22	1911 67	2586 46	6714 42
18942 27	1742 40	21767 09	12644 69	2059 68	229 85	549 72	1522 98	1071 24	12995 88
14464 72	2016 67	22106 72	20127 28	1426 14	622 72	722 42	1622 24	1062 07	6527 70
16858 69	6870 24	27007 29	11622 61	1197 12	240 22	216 11	2620 45	6622 22	4424 12
7984 70	182 07	12223 45	4487 71	962 79	609 54	24 02	747 67	552 20	4998 22
15422 06	1425 89	24788 46	12157 56	1222 29	1092 90	46 22	2221 79	1699 64	2221 12
11015 14	1012 72	17801 87	7268 40	1420 20	194 70	28 72	1995 72	1015 92	2579 04
12247 29	2122 09	22214 11	12429 91	1229 20	126 18	28 2	800 07	527 94	7022 28
8798 80	856 70	18991 04	6266 29	912 08	412 70	227 64	622 47	1221 72	2420 04
15222 11	2052 00	26296 90	12425 79	1299 80	754 55	274 5	2229 25	2077 72	7022 28
2622 44	2540 96	18400 20	7044 03	989 50	442 02	64 64	1861 69	2022 67	4997 27
12222 75	606 72	17505 22	8812 22	1194 12	590 10	10 82	177 20	222 70	5546 14
17222 01	2129 94	21895 25	22224 22	2272 20	1222 72	522 20	2542 68	2222 68	25202 22
2642 72	247 41	14544 94	2222 21	480 41	206 62	.....	1201 96	1222 68	7022 28
12222 02	2578 54	22515 22	10027 24	1052 20	542 20	.....	2024 70	1722 28	2027 42
151222 42	21222 47	2512242 55	1022272 49	122220 22	54222 70	41002 51	127172 27	222222 51	751722 04

ABSTRACT

EXAMINERS

COUNTIES.	1st class certifi- cates issued.*		2d grade certifi- cates issued.		3d grade certifi- cates issued.		Special certifi- cates issued.†		Kind'g'rtn certifi- cates issued.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Adair.....	15	43	36	173	.....	.....	.....	.....	.....	.....
Adams.....	3	7	40	133	.....	.....	.....	.....	.....	.....
Allamakee.....	4	24	17	67	15	87	.....	.....	.....	.....
Appanoose.....	16	30	25	146	.....	.....	.....	.....	.....	.....
Audubon.....	4	14	33	70	23	70	.....	.....	.....	.....
Benton.....	20	73	59	133	.....	.....	.....	.....	.....	.....
Black Hawk.....	4	16	77	161	.....	.....	.....	.....	.....	.....
Boone.....	23	30	18	63	40	162	.....	.....	.....	.....
Bremer.....	10	55	23	80	5	25	.....	.....	.....	1
Buchanan.....	10	78	23	123	.....	.....	.....	.....	.....	.....
Buena Vista.....	13	31	19	136	.....	.....	.....	.....	.....	.....
Butler.....	7	19	34	115	.....	.....	.....	.....	.....	.....
Calhoun.....	6	30	6	48	7	37	.....	.....	.....	.....
Carroll.....	22	48	35	96	.....	.....	.....	.....	.....	.....
Cass.....	6	22	33	205	.....	.....	.....	.....	.....	.....
Cedar.....	4	14	20	191	.....	.....	.....	.....	.....	.....
Cerro Gordo.....	20	73	25	142	19	45	.....	.....	.....	.....
Cherokee.....	14	23	21	109	10	30	.....	.....	.....	.....
Chickasaw.....	10	41	30	103	.....	.....	.....	.....	.....	1
Clarke.....	5	19	41	121	.....	.....	.....	.....	.....	.....
Clay.....	13	26	25	130	.....	.....	.....	.....	.....	.....
Clayton.....	14	41	38	216	.....	.....	.....	.....	.....	.....
Clinton.....	10	44	18	134	17	150	.....	.....	.....	.....
Crawford.....	35	40	23	169	.....	.....	.....	.....	.....	.....
Dallas.....	9	14	43	90	30	146	.....	.....	.....	.....
Davis.....	14	5	44	87	.....	.....	.....	.....	.....	.....
Decatur.....	16	43	33	80	14	37	.....	.....	.....	.....
Delaware.....	10	19	34	159	6	27	.....	.....	.....	.....
Des Moines.....	21	93	11	73	2	.....	.....	.....	.....	.....
Dickinson.....	.....	4	4	23	.....	1	.....	.....	.....	.....
Dubuque.....	12	30	23	263	.....	.....	3	4	.....	3
Emmet.....	1	9	13	63	3	12	.....	.....	.....	.....
Fayette.....	3	17	33	203	.....	.....	.....	.....	.....	.....
Floyd.....	3	16	12	66	13	63	1	1	.....	.....
Franklin.....	4	23	31	70	4	72	1	.....	.....	.....
Fremont.....	6	2	36	140	4	21	.....	.....	.....	.....
Greene.....	22	33	21	96	19	34	.....	6	.....	2
Grundy.....	15	57	23	94	19	51	.....	.....	.....	.....
Guthrie.....	40	65	17	122	.....	.....	.....	.....	.....	.....
Hamilton.....	2	4	17	78	33	92	3	1	.....	2
Hancock.....	13	26	34	91	27	86	.....	.....	.....	.....
Hardin.....	19	131	23	120	.....	.....	1	1	.....	.....
Harrison.....	1	5	37	235	.....	.....	.....	.....	.....	.....
Henry.....	4	9	26	89	.....	.....	.....	.....	.....	.....
Howard.....	23	46	31	182	.....	.....	.....	.....	.....	.....
Humboldt.....	6	26	10	58	15	60	.....	.....	.....	.....
Ida.....	16	30	27	68	.....	.....	.....	.....	.....	.....
Iowa.....	19	41	20	70	.....	.....	.....	.....	.....	.....

* For two years.

† To teach only one or a few branches.

REPORTS FOR 1897.
OF TEACHERS.

Applicants rejected.		Applicants examined.		Different persons licensed.		Av. age of applicants.		No experience in teaching.		Taught less than one year.		Holding state certificates or diplomas.	
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
15	87	66	252	44	141	26	22	9	14	10	24	2	2
10	20	53	160	30	100	21	18	12	40	19	49	3	1
8	47	44	235	28	160	25	19	12	30	20	43	1	2
1	3	53	179	45	126	26	22	14	36	9	26	4	2
10	28	68	182	46	118	30	23	9	21	8	12	1	.....
3	50	80	256	61	188	25	23	19	32	28	68	11	11
16	51	104	237	62	159	23	24	9	40	12	26	7	19
26	96	107	341	62	190	27	22	12	38	10	25	1	14
4	22	42	193	29	130	26	23	8	21	2	12	1	2
2	22	24	241	32	206	23	20	11	54	2	17	5	5
6	35	37	191	24	126	26	23	5	27	7	30	2	9
15	30	56	164	41	159	25	22	12	50	15	26	6	8
5	13	26	127	17	102	25	21	4	16	4	12	5	7
9	26	66	160	43	112	23	20	19	42	9	8	6	2
12	39	51	356	29	199	25	23	3	20	11	39	3	12
6	62	30	267	24	241	25	22	4	28	6	67	5	4
24	66	88	327	24	228	26	23	9	25	8	35	1	2
14	47	62	221	39	183	23	19	8	14	8	20	4	10
13	49	62	194	41	112	24	22	12	20	7	9	2	4
2	10	48	161	24	80	25	21	5	15	8	9	1	4
16	41	64	187	40	110	24	21	8	26	8	32	1	1
13	47	67	204	42	189	24	22	5	26	8	42	1	2
5	24	50	425	40	301	26	22	12	90	4	40	4	20
6	50	62	250	50	150	26	21	6	19	12	40	2	.....
8	22	99	234	78	212	25	22	9	32	5	40	5	9
4	6	62	93	53	80	25	22	16	15	7	12	1	.....
7	22	69	182	56	148	25	21	14	27	11	32	1	1
6	49	58	254	26	170	26	22	6	32	5	39	2	1
4	6	28	175	32	159	25	22	1	2	1	2	2	24
.....	.....	4	40	4	40	23	19	1	9	.....	6	3	2
.....	17	28	244	23	298	25	25	2	27	2	32	2	2
1	6	20	109	16	87	27	21	5	18	6	28	2	1
15	45	56	265	41	220	27	24	11	20	10	25	2	2
2	18	21	156	26	108	23	21	7	24	12	52	5	2
3	25	23	199	24	147	25	23	6	27	5	14	2	9
11	59	57	222	27	120	25	22	4	21	6	45	4	2
12	26	74	254	22	175	23	18	9	32	4	12	7	6
5	27	62	229	50	166	22	21	17	44	17	54	3	9
9	21	66	209	55	127	22	24	9	16	5	12	4	2
11	32	65	210	21	162	26	22	9	19	11	26	2	1
12	24	77	227	25	126	26	22	4	10	5	16	1	2
16	51	64	202	48	252	21	19	9	32	17	32	8	4
10	58	28	227	21	225	25	22	2	25	2	25	5	7
8	22	22	122	20	92	26	24	11	17	6	19	2	2
9	22	62	201	42	124	22	22	2	20	15	51	.....	7
5	29	26	172	20	92	26	22	7	24	10	22	2	.....
20	67	72	174	22	92	22	21	5	14	2	11	2	2
20	40	59	151	29	111	22	22	10	20	2	12	1	2

REPORT OF THE

ABSTRACT

EXAMIN

COUNTRIES.	1st class certifi- cates issued.*		2d grade certifi- cates issued.		3d grade certifi- cates issued.		Special certifi- cates issued.†		Kind's'grtn certifi- cates issued.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Alaska	10	78	26	137	3	15				
Albermarle	10	48	35	211	5	27				
Albion	1	4	45	121	6	41				
Albion	20	80	80	840						
Albion	7	21	12	52	25	142				
Albion	16	43	64	252						
Albion	20	112	31	140				5		
Albion	13	62	26	161			11	12		
Albion	20	155	32	202						
Albion	5	31	15	25	20	72				
Albion	1	11	43	186						
Albion	12	30	22	33						
Albion	1	11	62	145						
Albion	5	25	56	126			1			5
Albion	10	22	36	113	5	33				
Albion	5	17	78	231						
Albion	5	23	14	58	28	170				
Albion	10	14	47	147						
Albion	12	40	41	158						
Albion	2	5	17	44	12	120				
Albion	5	12	45	160	2	18		1		
Albion	5	45	9	112						
Albion	17	25	20	91				1		
Albion	15	42	17	65						1
Albion	1	5	50	178			1			
Albion	14	28	28	99						
Albion	31	129	17	75	9	51				
Albion	19	50	31	112						
Albion	23	221	52	222			2	9		22
Albion	14	25	39	205				4		2
Albion	12	41	14	60	12	62				
Albion	11	12	22	114	12	30				
Albion	4	8	26	26	24	119				
Albion	2	8	29	202			3	11		
Albion	22	51	50	122	2	9				
Albion	9	10	20	122	10	32		5		
Albion	11	31	54	159				2		
Albion	4	17	37	207						
Albion	8	20	51	159						
Albion	12	22	5	59	12	46	1			1
Albion	6	9	21	80	16	46				
Albion	4	10	52	210			1	8		
Albion	7	12	25	172						
Albion	10	20	46	185						
Albion	10	12	30	149						
Albion	5	22	14	25	17	171				
Albion	7	22	29	80	4	22				
Albion	17	64	26	65	8	54		10		
Albion	27	166	10	170			5			
Albion	4	12	29	64						
Albion	9	26	11	80	24	111				
Totals	1127	3790	1122	12296	622	2667	44	111		54

* For two years.

† To teach only one or a few branches.

ABSTRACT [D]—CONTINUED.

VISITATION OF SCHOOLS, APPEALS, ETC., 1897.

average compensation.

ABSTRACT [D]—CONTINUED.

SUMMARY CONDITION OF SCHOOLHOUSES, 1897.

REPORTS FOR 1897.

NORMAL INSTITUTES.

INSTITUTE FUND.

RECEIPTS.						EXPENDITURES.		
On hand at last report.	Examination fees.	Registration fees.	State appropriation.	County appropriation and sundries.	Total.	Instruction and lectures.	Incidentals.	Unexpended.
\$ 329 48	\$ 318	\$ 230	\$ 50	\$ 47 40	\$ 974 88	\$ 742 50	\$ 100 50	\$ 131 88
29 85	213	127	50	.....	419 85	830 00	71 49	28 36
357 12	279	159	50	.....	845 12	439 25	30 09	325 78
40 13	222	226	50	.....	548 13	520 00	18 10	10 03
28 96	250	156	50	303 87	788 83	685 00	94 00	9 83
323 24	345	301	50	.....	1018 24	661 18	119 00	238 06
515 90	341	325	50	.....	1281 90	658 00	80 10	493 80
79 50	448	353	50	.....	930 50	818 85	69 26	43 39
212 66	235	155	50	.....	652 66	452 00	50 55	150 11
125 18	275	231	50	50	741 68	474 60	133 69	133 39
14 39	228	170	50	83 11	545 50	455 00	90 50	.....
344 22	220	164	50	.....	778 22	355 00	58 75	364 47
149 73	153	156	50	16 00	524 73	405 00	53 00	66 73
10 50	226	216	50	.....	502 50	419 50	39 50	13 50
1 00	407	262	50	42 75	782 75	588 00	196 75	.....
144 88	297	236	50	.....	727 88	525 00	141 25	61 63
34 34	415	478	50	71 00	1043 34	685 00	200 40	157 94
737 16	283	231	50	.....	1251 16	606 00	31 20	713 96
148 43	256	129	50	.....	583 43	513 00	36 00	34 43
65 08	309	187	50	18 00	524 08	457 00	65 50	1 58
257 25	251	191	50	.....	749 25	440 00	84 20	225 05
509 51	371	237	50	.....	1157 51	495 00	50 40	612 11
30 33	485	346	50	.....	911 38	575 00	301 56	34 82
120 66	313	222	50	10 44	716 04	478 50	148 20	89 34
.....	383	253	50	75 86	761 86	475 00	286 86	.....
120 68	160	176	50	.....	506 68	390 00	61 55	55 13
258 40	251	203	50	.....	862 40	664 40	71 50	126 50
7 24	312	216	50	18 65	603 89	541 00	63 25	64
75 35	213	180	50	.....	518 35	325 00	87 19	106 16
192 19	44	110	50	4 00	400 19	200 00	34 70	165 49
13 00	383	320	50	50 00	815 00	729 00	75 00	11 00
52 54	129	96	50	.....	327 54	283 00	33 05	12 49
38 69	321	303	50	110 00	822 60	590 75	201 32	30 53
8 71	187	170	50	.....	415 71	347 50	68 21	.....
115 15	232	157	50	2 75	556 90	381 50	53 00	123 40
.....	279	208	50	.....	537 00	345 00	145 68	46 32
.....	328	259	50	85	737 85	533 00	204 85	.....
180 21	291	193	50	.....	717 21	520 00	48 85	148 36
235 41	275	253	50	26 00	839 41	568 85	230 70	39 86
192 29	275	180	50	.....	697 29	578 00	67 50	51 79
155 00	304	117	50	.....	626 00	405 00	54 00	167 00
147 84	307	232	50	.....	846 84	585 00	185 00	76 84
444 50	365	232	50	5 00	1116 50	610 00	60 38	446 12
199 97	160	164	50	.....	573 97	453 70	60 50	69 77
4 37	269	185	50	.....	506 37	375 00	70 50	62 87
37 32	309	159	50	51 43	506 75	430 00	76 75	.....
118 50	247	160	50	.....	575 50	342 45	106 40	126 65
315 81	210	206	50	.....	781 81	512 50	98 10	171 21
142 46	291	241	50	.....	724 46	560 40	124 91	39 15
91 24	534	358	50	.....	1038 24	655 00	236 10	142 14

COUNTIES.	WHERE HELD.	SESSIONS.	THROU ATTEN	
			Number daily.	
			Males	Females
Jefferson.....	Fairfield.....	August 2		
Johnson	Iowa City	July 19		
Jones.....	Monticello.....	June 21		
Keokuk	Sigourney	August 16		
Kossuth.....	Algona	July 20		
Lee	Ft. Madison.....	July 5		
Linn	Marion.....	August 10		
Louisa.....	Wapello	August 9		
Lucas.....	Chariton.....	August 2		
Lyon.....	Rock Rapids.....	July 5		
Madison.....	Winterset	August 2		
Mahaska.....	Oskaloosa	July 19		
Marion.....	Knoxville	August 2		
Marshall.....	Marshalltown.....	July 19		
Mills	Malvern	June 14		
Mitchell.....	Osage	August 23		
Monona	Onawa.....	August 2		
Monroe.....	Albia.....	July 19		
Montgomery.....	Red Oak.....	July 20		
Muscatine.....	Muscatine.....	August 16		
O'Brien.....	Primghar.....	August 16		
Osceola.....	Sibley.....	March 20		
Page	Clarinda.....	August 9		
Palo Alto.....	Emmetsburg.....	August 16		
Plymouth.....	Le Mars	July 5		
Pocahontas.....	Fonda	July 13		
Polk.....	Des Moines	August 16		
Pottawattamie.....	Council Bluffs	August 2		
Poweshiek.....	Brooklyn.....	June 20		
Ringgold	Mt. Ayr.....	August 14		
Sac	Sac City	August 16		
Scott.....	Davenport	*July 5		
Shelby.....	Harlan	August 2		
Sioux	Orange City and Hawarden	*July 13		
Story.....	Nevada.....	July 12		
Tama.....	Toledo	June 21		
Taylor.....	Bedford	June 21		
Union	Oreston.....	August 2		
Van Buren.....	Keosauqua.....	July 20		
Wapello.....	Ottumwa.....	July 12		
Warren	Indianola	August 9		
Washington.....	Washington.....	July 19		
Wayne	Corydon	August 9		
Webster	Ft. Dodge	July 19		
Winnebago.....	Forest City.....	August 23		
Winnebleshiek	Decorah	March 20		
Woodbury.....	Sioux City, Correctionville.	*June 28		
Worth	Northwood.....	July 26		
Wright.....	Clarion.....	August 9		
Totals.....		.....	12	

* Including a supplementary institute. † Average length of institute.

REPORTS FOR 1897—CONTINUED.

NORMAL INSTITUTES.

INSTITUTE FUND

RECEIPTS						EXPENDITURES.		
On hand at last report.	Examination fees.	Registration fees.	State appropriation.	State appropriation and sundries.	Total.	Instruction and lectures.	Incidentals.	Unexpended.
379 54	251 8	204 8	50		834 54	445 00	66 58	379 96
28 92	580	420	50		1187 92	91 00	186 22	
264 68	216	200	50		850 68	599 00	112 35	120 83
7 29	441	278	50	78 11	854 50	750 00	104 50	
408 50	222	215	50		1101 50	878 70	66 30	126 50
793 20	205	190	50	9 70	1265 90	655 00	88 20	522 70
1 15	485	485	50	106 40	1108 15	532 00	569 60	55
151 73	182	119	50	10 00	523 78	419 00	50 15	54 68
222 90	257	169	50		727 90	373 66	93 50	261 74
90 53	168	150	50		467 53	440 00	10 10	17 43
805 30	208	202	50		1145 80	625 00	114 73	406 07
8 98	251	200	50		876 98	610 00	66 25	73
126 67	222	226	50		650 67	401 50	98 00	151 17
801 27	229	208	50		1182 27	750 25	78 23	268 79
104 65	226	143	50		625 65	596 00	29 65	
75 20	275	149	50		549 20	448 00	44 05	56 15
407 16	204	206	50		967 16	422 90	95 50	408 76
140 79	263	172	50		623 79	519 00	41 25	73 54
241 50	205	175	50		731 50	545 14	36 50	147 86
4 60	220	160	50		463 60	307 00	71 70	84 90
181 90	215	150	50		606 20	440 00	56 80	109 40
30 23	183	145	50	20 00	428 23	325 00	83 11	20 12
15 66	226	272	50		688 66	590 20	74 14	10 17
222 18	222	154	50		655 18	511 00	49 25	225 91
106 00	242	227	50		725 00	515 00	97 50	128 80
92 51	222	181	50		501 51	325 00	108 05	73 46
506 93	609	402	50		1627 93	1050 90	409 97	166 06
126 20	441	272	50		868 20	573 00	143 50	171 70
93 60	226	112	50		490 60	480 00	50 00	20 60
127 05	200	166	50		613 05	485 00	112 00	16 05
58 00	219	200	50		626 00	490 00	60 85	75 65
268 16	271	200	50		869 16	518 95	50 94	299 27
249 15	220	212	50		868 15	497 50	65 75	273 90
	220	470	50		860 00	720 00	99 45	39 55
276 51	226	226	50		904 51	480 00	84 80	220 71
246 40	282	220	50		1008 40	728 00	96 12	120 27
579 60	220	192	50		1141 80	722 00	165 05	266 75
251 17	179	194	50		774 17	407 40	60 00	306 77
226 72	226	154	50		676 72	420 00	83 85	142 87
440 08	211	226	50		1026 08	624 00	17 60	334 48
251 50	224	228	50		817 50	463 00	179 03	175 53
565 6	226	241	50		1164 68	706 80	63 50	419 88
218 20	254	204	50		826 20	520 00	40 00	256 20
106 75	226	276	50		820 75	520 00	181 13	159 62
2 65	152	8	50	65 35	340 00	225 00	15 00	
128 72	221	212	50		711 72	415 00	81 20	215 52
86 19	477	424	50		1037 19	747 08	199 19	90 92
25	140	110	50		300 25			64 45
24 82	271	180	50	53 78	579 60	540 00	39 60	
17895 93	22977	22228	4050	1205 55	75665 43	51775 96	9901 59	12997 98

REPORT OF THE

ABSTRACT [E]—CONTINUED

(Lack of room on these two pages compelled the omission of a few names.)

COUNTIES.	CONDUCTOR.	INSTRUCTORS.
air.....	A. A. Taylor.....	J. J. McMahon.....
ams.....	I. P. Clark.....	I. B. Clark.....
amakee....	J. F. Smith.....	J. B. Smith.....
panoose....	E. W. Adamson.....	H. C. Adamson.....
dubon.....	D. P. Bapasa.....	F. P. Bapasa.....
aton.....	A. W. White.....	E. E. White.....
ack Hawk..	W. W. Brittain.....	S. Y. Brittain.....
one.....	B. P. Holst.....	G. I. Holst.....
mner.....	L. O. Oberdorf.....	S. H. Oberdorf.....
chanan....	E. O. Lillie.....	S. Y. Lillie.....
ena Vista..	J. E. Durkee.....	O. W. Durkee.....
tlar.....	F. E. Howard.....	O. P. Howard.....
houn.....	R. W. Murphey.....	G. V. Murphey.....
roll.....	J. J. McMahon.....	G. I. McMahon.....
m.....	H. B. Newcomb.....	O. O. Newcomb.....
lar.....	J. W. Marker.....	E. E. Marker.....
ro Gordo..	Eugene Brown.....	A. E. Brown.....
rookee....	H. H. Seerley.....	G. V. Seerley.....
ckasaw....	O. S. Cory.....	J. B. Cory.....
erke.....	A. B. Warner.....	W. C. Warner.....
y.....	W. B. Wilson.....	W. C. Wilson.....
yton.....	Sumner Miller.....	W. I. Miller.....
nton.....	Chas. McKenny.....	M. A. McKenny.....
wford.....	W. T. Wright.....	W. C. Wright.....
llas.....	M. E. Phillips.....	W. I. Phillips.....
vis.....	O. W. Martindale.....	O. W. Martindale.....
atur.....	H. A. Harkness.....	O. W. Harkness.....
laware....	L. T. Eaton.....	E. E. Eaton.....
Moines....	M. B. Shaw.....	O. E. Shaw.....
kinson....	H. A. Welty.....	W. I. Welty.....
buque....	B. J. Horchem.....	J. P. Horchem.....
mpet.....	H. H. Davidson.....	W. I. Davidson.....
vette.....	F. H. Bloodgood.....	A. V. Bloodgood.....
yd.....	W. H. Allis.....	G. S. Allis.....
unklin....	Emily Revere.....	Wm. Revere.....
umont.....	H. A. Simons.....	J. A. Simons.....
ene.....	L. B. Carlisle.....	J. J. Carlisle.....
andy.....	W. W. Taylor.....	W. I. Taylor.....
thrie.....	O. M. Young.....	E. J. Young.....
milton....	W. F. Cole.....	D. B. Wright, J. J. Doffemyer, Clara R. Brandvig, Alice O. Wilson.
ncock....	Geo. Chandler.....	A. M. Dayce, Eva B. Crowe, J. F. Doder.
rdin.....	O. H. Marsh.....	O. F. Woodward, Julia Scurry, C. H. O. B. Chassell, E. P. Fogg, A. J. Cavan.
rrison....	M. A. Reed.....	O. E. Shelton, H. A. Kinney, J. M. Bapp, H. ler, Henrietta Porter, Fannie Fisher.
rry.....	Ed. L. Roth.....	O. M. Grumbling, G. W. Walters, J. E. Antrim, A. E. Parsons, Stella Satterth.
ward.....	L. E. A. Ling.....	F. H. Bloodgood, Anna J. Ziek, Etale E. Pe.
mboldt....	O. S. Opheim.....	Geo. Chandler, O. Messer, M. Miller, Clara.
.....	J. O. Hagler.....	E. N. Coleman, Christine Benson, T. B. Hu.
va.....	L. A. Loos.....	J. J. McConell, T. M. Olevenger, O. H. Car.
		Fleming, E. Hopkins, Dawn Bauserm.

ABSTRACT [E]—CONTINUED.

COUNTY.	CONDUCTOR.	INSTRUCTORS.
Adams.	A. F. Kearney	W. H. Bender, George Ohandler, A. P. Heald, U. O. Dudley, Minnie V. Wynkoop. [Richards.
Alcona.	Minnie A. Walsh	E. J. H. Beard, G. B. Dick, J. M. Martindale, S. G. J. E. Williamson, M. F. Arey, Jennie E. Curtis
Alcona.	R. A. Barkness	E. E. White, S. Y. Gillan, Wm. Hawley Smith, W. A. Willis, J. J. McConnell, W. F. Oramer.
Alcona.	S. K. Stevenson	E. G. Young, D. M. Kelly, W. N. Clifford, J. F. Saylor.
Alcona.	T. J. Cowan	E. H. Seerley, E. H. Grimm, O. C. Scott, G. H. Mullin, Mrs. A. H. Mendenhall, Mrs. A. L. Shattuck.
Alcona.	J. A. Potts	J. S. Shoup, George Ohandler, Eva B. Crowe.
Alcona.	B. F. Reed	M. F. Arey, Jennie E. Curtis, Eva L. Gregg.
Alcona.	O. W. Weyer	H. H. Freer, J. T. Merrill, J. J. Doffemeyer, W. A. Doron, Mrs. Mary B. Davis. [E. Palmer.
Alcona.	N. H. Richards	W. H. Bender, Lucy Curtis, A. M. M. Dornon, Kate O. C. Scott, S. M. Cart, Carrie E. Allen, D. E. Michener, Edie S. Huneman.
Alcona.	Lizzie Hughes	J. A. Lapham, Julia Sourry, A. W. Grisell.
Alcona.	O. F. Goltry	F. B. Cooper, O. E. Shelton, G. W. Samson, A. V. Storm.
Alcona.	W. S. Wilson	W. O. Riddell, M. A. Reed, Kate E. Palmer, Anna B. Atwater, Marian Ross. [Mrs. M. Harlin.
Alcona.	H. B. Seerley	J. H. Garber, S. J. Finley, L. B. Carlisle, W. W. Cook, Lucy Curtis, Christine Benson, H. E. Kratz.
Alcona.	Florabel Patterson	G. M. Turner, Mita Suples, M. I. Craig, Ida L. Schell.
Alcona.	R. G. Mulky	O. P. Colgrove, J. A. Lapham, Christine Benson.
Alcona.	H. B. Hayden	H. E. Kratz, Mrs. Sara D. Jenkins, H. H. Hahn.
Alcona.	O. P. Colgrove	F. E. King, Mrs. L. B. Carlisle, S. M. Cart.
Alcona.	R. O. Barrett	W. F. Chevalier, I. S. Oodit, F. O. Demorest, Emma O. Moulton, Nettie A. Sawyer.
Alcona.	F. E. Lark	E. W. Leverich, L. T. Hill, P. A. McMillan.
Alcona.	H. O. Hollingsworth	W. I. Simpson, A. V. Storm, E. B. Daniel, Clara Klinefelter, M. B. Forbes.
Alcona.	J. W. Clark	W. S. Wilson, Mrs. A. L. Shattuck, B. T. Green.
Alcona.	F. M. Witter	J. A. McLean, W. Bell.
Alcona.	Ella Seckerson	E. er, Carrie S. Parker, Fannie A. Palmer.
Alcona.	T. S. Redmond	J. F. M. Chaffee, N. Jeannette Carpenter, Alg. Annie Wernli, Carrie Decker.
Alcona.	H. E. Deater	Tillie Oramer, U. S. Vance.
Alcona.	Bessie Larsen	in, J. W. Rich, L. B. Carlisle, W. O. Riddell, N. Clifford, Mrs. H. E. Reynolds.
Alcona.	E. N. Coleman	W. N. Paulson, O. J. McManus, Ada E. Olive A. Benn, S. O. Hanson.
Alcona.	D. E. Bond	in, Bruce Francis, F. B. Robinson.
Alcona.	F. B. Cooper	Eva Kendall.
Alcona.	W. S. Paulson	y. U. E. Stallcop, Eva L. Gregg.
Alcona.	W. O. Rayburn	Chas. McMurry, Arno d Tompkins, J. B. Knopfer.
Alcona.	Mattie Stahl	M. A. Read, A. W. Merrill, O. S. Cobb.
Alcona.	E. N. Coleman	O. E. Shelton, A. V. Storm, J. H. Garber, J. L. Mishler, J. O. Trainer, T. B. Hutton.
Alcona.	O. L. Sukendorf	L. T. Weld, A. V. Storm, E. D. Y. Onibertson.
Alcona.	A. B. Warner	E. E. Blanchard, J. B. Young, H. O. Bateman, B. F. McOlelland, S. O. Huber, A. E. Parsons.
Alcona.	M. M. Mishler	J. O. Hisey, W. B. Read, G. W. Fisher, W. B. Moffett, H. S. Ash, Eva B. Danielson.
Alcona.	G. W. Phillips	O. E. French, A. E. Parsons, T. B. Amlie, Carrie V. Lynn, Eva B. Danielson. [E. Buck.
Alcona.	A. L. Speaker	D. T. Sollenbarger, Emma M. Ridley, W. T. Dick, F. J. E. Williamson, Elizabeth K. Matthews, Ida L. Schell, Abbie S. Abbott.
Alcona.	F. E. Crosson	J. Piper, B. P. Holst, W. B. Read, Nellie Sanborn.
Alcona.	Charles Emerson	W. J. Black, G. H. Mullin, Mara L. Pratt, O. P. Colgrove, Mrs. Eva D. Kellogg, Edith Buck.
Alcona.	J. H. Landes	L. Begeman, J. F. Holiday, F. B. Taylor, S. L. Tipton, Chas. Carter, Inez F. Kelso.
Alcona.	A. W. Stuart	E. N. Coleman, L. B. Carlisle, J. W. Jackson, A. L. Brown, E. A. Rolfe, J. F. Monk.
Alcona.	Edd R. Guthrie	W. A. Grusinberry, O. N. Bronea, Mrs. B. G. Mabin.
Alcona.	Cornelia Klass	B. O. Barrett, J. Breckenridge.
Alcona.	Carrie M. Goodell	J. S. Shoup, J. H. O'Donoghue, O. A. Schotta, J. G. Hobson, Eva Kendall.
Alcona.	O. V. Findlay	E. W. G. Voganita, J. A. Lapham, George Ohandler.
Alcona.	J. D. Stout	J. G. Grundy, S. T. May, Eva Kendall.
Alcona.	L. T. Wald	
Alcona.	E. A. Brown	
Alcona.	S. B. Toye	
Alcona.	O. O. Rounds	

STATISTICS

Of cities having 3,000

* City of Des Moines also includes all or a part of nineteen other districts.
 † Superintendent acts as principal of high school.
 ‡ Graduates of our high school.
 PRESENT CITY SUPERINTENDENT.—1 Amos Hiatt. 2 F. A. Lacey. 3 F. B.
 4 F. T. Oidt. 5 J. B. Young. 6 H. E. Kratz. 7 O. E. Shelton. 8 J. T. Merrill.
 9 Hisey. 10 O. P. Bostwick. 11 J. H. Breese. 12 A. W. Stuart. 13 O. W. Weyer.
 14 Witter. 15 F. E. Willard. 16 O. W. Cruikshank. 17 G. L. Miller. 18 F. C. Wides.

ITY SYSTEMS.

Population by the Census of 1895.

20 F. J. Sessions. 21 S. H. Sheakley. 22 B. K. Stevenson. 23 O. E. French. 24 A. S. S. 25 F. E. King. 26 J. L. Buechels. 27 O. W. Martindale. 28 E. N. Coleman. 29 William Wilcox. 30 O. J. Laylander. 31 W. F. Chevalier. 32 G. B. Dick. 33 J. E. Williamson. 34 J. F. Riggs. 35 J. J. Doffemyer. 36 G. H. Mullin. 37 A. L. Lyon. 38 C. O. Dudley. 39 A. B. Warner. 40 S. M. Cart. 41 S. B. Montgomery. 42 G. W. Cowden. 43 J. H. Beard. 44 H. O. Waddle. 45 E. A. Parks. 46 O. E. Smith. 47 J. L. Rose. 48 William Bell. 49 J. G. Grundy.

Not including those found in tables on pages 66 and 68.

*In city of Des Moines.

GRADED SCHOOLS—CONTINUED.

NAME OF CITY OR TOWN.	Number months school.	per month for each scholar in av. attendance.	NAME OF SUPERINTENDENT OR PRINCIPAL, 1896-7.	Annual salary.	Number of other teachers.	Average salary per month of assistant teachers.
Academy	8.0	9		480	8	80 38
Academy	8.0	11		720	4	48 38
Academy	8.0	11		875	8	82 50
Academy	8.0	11		630	8	85 50
Academy	8.0	12		540	8	86 61
Academy	8.0	12		450	5	88 00
Academy	8.0	12		1000	7	40 70
Academy	8.5	12		880	6	88 00
Academy	9.0	16		540	3	81 38
Academy	9.0	14		680	8	45 38
Academy	8.0	12		400	2	85 00
Academy	9.0	11		810	5	87 50
Academy	9.0	18		800	8	40 00
Academy	9.0	12		630	8	85 00
Academy	9.0	12		450	10	28 90
Academy	10.0	12		540	8	85 00
Academy	9.0	8		900	7	42 88
Academy	9.0	15		675	5	42 80
Academy	9.0	14		720	2	41 87
Academy	8.0	7		400	4	85 00
Academy	9.0	12		900	7	43 15
Academy	9.0	16		630	6	40 00
Academy	9.0	15		785	5	85 00
Academy	8.0	14		300	4	40 00
Academy	8.0	14		630	8	85 00
Academy	9.0	11		630	5	88 00
Academy	8.0	17		520	8	85 00
Academy	9.0	16		585	4	42 50
Academy	9.0	16		920	9	44 00
Academy	9.0	12		600	4	63 33
Academy	9.0	14		675	8	40 00
Academy	8.0	12		540	3	85 00
Academy	9.0	10		585	4	85 00
Academy	8.0	14		640	3	83 33
Academy	9.0	17		540	3	83 33
Academy	8.0	11		600	3	45 00
Academy	9.0	19		583	3	85 00
Academy	9.0	14		675	7	42 57
Academy	9.0	11		675	5	88 00
Academy	9.0	12		720	7	41 42
Academy	9.0	17		1000	9	40 00
Academy	9.0	17		900	8	40 88
Academy	9.0	15		810	8	40 00
Academy	9.0	12		700	4	35 00
Academy	9.0	16		630	4	38 00
Academy	9.0	12		540	3	40 00
Academy	9.0	11		450	3	36 67
Academy	9.0	11		495	4	40 34
Academy	8.5	12		425	3	36 67
Academy	10.0	21		1200	9	58 11
Academy	9.0	18		720	4	40 00
Academy	9.0	18		600	5	85 00
Academy	9.0	19		720	3	40 00
Academy	9.0	17		600	3	38 50
Academy	8.0	10		500	3	37 50
Academy	8.0	10		720	5	80 00
Academy	9.0	17		585	3	85 00
Academy	9.0	14		675	4	85 00
Academy	9.0	17		675	3	40 00
Academy	8.0	15		600	7	38 21
Academy	9.0	18		1000	8	41 85
Academy	9.0	18		675	3	85 00
Academy	8.0	12		600	4	28 90
Academy	9.0	14		900	6	40 00
Academy	8.0	12		1000	5	40 50
Academy	9.0	12		800	10	41 00
Academy	9.0	12		675	8	40 00
Academy	9.0	12		630	8	40 00
Academy	8.0	12		800	4	85 25

GRADED SCHOOLS—CONTINUED.

HIGH SCHOOL STATISTICS.
FROM CITIES AND TOWNS OF OVER 1,000 BY THE CENSUS OF

* In the city of Des Moines. † No high school.

HIGH SCHOOL STATISTICS—CONTINUED.

*In the city of Des Moines.

*Including normal department.

COUNTY SUPERINTENDENTS OF SCHOOLS.

TERM OF OFFICE—JANUARY, 1898, TO JANUARY, 1900.

COUNTY.	SUPERINTENDENT.	POSTOFFICE.
Adams	†A. A. Taylor	Greenfield.
Ashtabula	*I. P. Clark	Corning.
Baldwin	†J. F. Smith	Waukon.
Benett	*E. W. Adamson	Centerville.
Benton	R. C. Spencer	Audubon.
Berkley	A. K. Rife	Vinton.
Brown	*W. W. Brittain	Waterloo.
Butler	†B. P. Holst	Boonsboro.
Calhoun	F. P. Hagemann	Waverly.
Carroll	*E. C. Lillie	Independence.
Cass	*J. E. Durkee	Sioux Rapids.
Chautauque	H. B. Akin	Allison.
Chippewa	†R. W. Murphey	Rockwell City.
Columbia	†J. J. McMahon	Carroll.
Concord	A. J. Burton	Atlantic.
Crawford	*J. W. Marker	Tipton.
Cedar	†Eugene Brown	Mason City.
Clay	*Agnes J. Robertson	Cherokee.
Clearwater	J. A. Bishop	New Hampton.
Cole	Nellie Richards	Osceola.
Commonwealth	†Mrs. Ellen Reed	Spencer.
Cook	†Sumner Miller	Guttenberg.
Cotton	*G. U. Gordon	Clinton.
Crawford	A. G. Myers	Denison.
Crawford	*A. C. Hutchins	Adel.
Crawford	*C. W. Huff	Bloomfield.
Crawford	*J. E. Cummins	Leon.
Crawford	*L. T. Eaton	Manchester.
Crawford	*M. B. Shaw	Burlington.
Crawford	†H. A. Welty	Spirit Lake.
Crawford	†B. J. Horchem	Dubuque.
Crawford	*H. H. Davidson	Estherville.
Crawford	†F. H. Bloodgood	West Union.
Crawford	J. I. Martin	Charles City.
Crawford	†Emily Reeve	Hampton.
Crawford	Lee Notson	Sidney.
Crawford	†W. E. Jenison	Jefferson.
Crawford	J. T. Gray	Grundy Center.
Crawford	*C. M. Young	Guthrie Center.
Crawford	*W. F. Cole	Webster City.
Crawford	C. F. Schell	Goodell.
Crawford	C. F. Woodward	Eldora.
Crawford	W. T. Arthur	Logan.
Crawford	*Ed. L. Roth	Mt. Pleasant.
Crawford	*F. A. McPherson	Cresco.
Crawford	*O. S. Opheim	Humboldt.
Crawford	†J. C. Hagler	Ida Grove.
Crawford	T. M. Clevenger	Marengo.
Crawford	*A. F. Kearney	Maquoketa.
Crawford	E. C. Meredith	Newton.

-elected. † Re-elected more than once.

COUNTY SUPERINTENDENTS OF SCHOOLS—CONTINUED

TERM OF OFFICE—JANUARY, 1898, TO JANUARY, 1900.

COUNTY.	SUPERINTENDENT.	POSTOFFICE.
Afferson.....	*Laura B. Swan.....	Fairfield.
Johnson.....	S. D. Whiting.....	Iowa City.
Adair.....	†T. J. Cowan.....	Anamosa.
Adair.....	W. H. Gemmill.....	Algona.
Adair.....	Frank Van Erdewyk.....	Algona.
Adair.....	J. H. Stewart.....	Ft. Madison.
Adair.....	I. E. Gould.....	Marion.
Adair.....	C. M. Donaldson.....	Wapello.
Adair.....	*C. F. Coltry.....	Chariton.
Adair.....	*L. A. Dailey.....	Rock Rapids.
Adair.....	Ed. M. Smith.....	Winterset.
Adair.....	C. A. Kent.....	Oskaloosa.
Adair.....	W. F. Crew.....	Knoxville.
Adair.....	J. Morrissey.....	Marshalltown.
Adair.....	O. H. Marsh.....	Glenwood.
Adair.....	W. H. Salisbury.....	Osage.
Adair.....	*F. E. Lark.....	Onawa.
Adair.....	Mrs. F. E. McKillip.....	Albia.
Adair.....	*J. W. Clark.....	Red Oak.
Adair.....	*J. A. Townsley.....	Muscatine.
Adair.....	†Ella Seckerson.....	Primghar.
Adair.....	*T. S. Redmond.....	Sibley.
Adair.....	*H. E. Deater.....	Clarinda.
Adair.....	Anna Donovan.....	Emmetsburg.
Adair.....	I. C. Hise.....	Le Mars.
Adair.....	A. W. Davis.....	Pocahontas.
Adair.....	J. M. Brenton.....	Des Moines.
Adair.....	H. W. Sawyer.....	Council Bluffs.
Adair.....	Viola H. Schell.....	Montezuma.
Adair.....	*J. W. Wilkerson.....	Mt. Ayr.
Adair.....	*J. W. Jackson.....	Sac City.
Adair.....	A. A. Miller.....	Davenport.
Adair.....	J. B. Shorett.....	Harlan.
Adair.....	E. D. Brown.....	Orange City.
Adair.....	*G. W. Phillips.....	Nevada.
Adair.....	*A. L. Speaker.....	Toledo.
Adair.....	*F. E. Crosson.....	Bedford.
Adair.....	C. M. Peters.....	Creston.
Adair.....	D. T. Sollenbarger.....	Keosauqua.
Adair.....	†Joseph Parks.....	Ottumwa.
Adair.....	†Edd R. Guthrie.....	Indianola.
Adair.....	*Cornelia Klass.....	Washington.
Adair.....	*Carrie M. Goodell.....	Corydon.
Adair.....	†O. V. Findlay.....	Fort Dodge.
Adair.....	†L. C. Brown.....	Forest City.
Adair.....	*G. O. Haugen.....	Decorah.
Adair.....	†E. A. Brown.....	Sioux City.
Adair.....	†S. B. Toye.....	Northwood.
Adair.....	†G. T. Eldridge.....	Clarion.

* Re-elected. † Re-elected more than once.

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REFERENCE TABLE.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

I	Reynolds	Dec. 20, 1841	Annual report to the legislature.
A	Harlan.....	Jan. 14, 1848	Special report to the legislature (re 500,000 acre land grant)
II	Benton.....	Dec. 4, 1848	Biennial report to the legislature.
III	Benton.....	Dec. 2, 1850	Biennial report to the legislature.
IV	Benton. ...	Dec. 5, 1852	Biennial report to the legislature.
II	Benton.....	June 6, 1854	Supplemental report to the legislature (grants and school funds).
V	Eads.....	Dec. 4, 1854	Biennial report to the legislature.
O	Eads.....	July 11, 1855	Special report to the legislature (rela per cent fund).
VI	Eads.	Dec. 1, 1855	Biennial report to the legislature.
VII	Fisher.	Nov. 30, 1857	Biennial report to the legislature (ne tion).
VIII	Fisher.	Dec. 6, 1858	Biennial report to the board of education.

SECRETARY OF THE BOARD OF EDUCATION.

III	Benton.....	Dec. 6, 1859	Biennial report to the board of education.
D	Benton	Jan. 2, 1860	Supplemental report to the legislature.
X	Benton.....	Dec. 2, 1861	Biennial report to the board of education.
E	Benton.....	Jan. 30, 1863	Special report to the legislature.
F	Benton....	Dec. 9, 1863	Supplemental report to the legislature.
XI	Wiltse and Faville. .	Dec. 15, 1863	Biennial report to the legislature.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

XII	Faville.....	Dec. 1, 1865	Biennial report to the legislature.
XIII	Wells.....	Dec. 6, 1867	Biennial report to the legislature.
XIV	Kissell.....	Jan. 10, 1870	Biennial report to the legislature.
XV	Kissell.....	Jan. 1, 1873	Biennial report to the legislature.
XVI	Abernethy ..	Jan. 12, 1874	Biennial report to the legislature.
XVII	Abernethy...	Jan. 11, 1876	Biennial report to the legislature.
XVIII	Von Coellen...	Jan. 15, 1878	Biennial report to the legislature.
XIX	Von Coellen ..	Jan. 12, 1880	Biennial report to the legislature.
XX	Von Coellen...	Dec. 31, 1881	Biennial report to the legislature.
XXI	Akers... ..	Sept. 30, 1882	Biennial report to the governor.
XXII	Akers.....	June 30, 1884	Biennial report to the governor.
XXIII	Akers.....	June 30, 1885	Biennial report to the governor.
XXIV	Sabin	Sept. 30, 1889	Biennial report to the governor.
XXV	Sabin	Sept. 30, 1891	Biennial report to the governor.
XXVI	Knoepfler ...	Sept. 30, 1893	Biennial report to the governor.
XXVII	Sabin	Sept. 30, 1895	Biennial report to the governor.
XXVIII	Sabin	Sept. 30, 1897	Biennial report to the governor.

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ABBREVIATIONS—"C. J.," used only in report of William Reynolds, refers to council journal, where the report was printed in full. "Ap." is substituted for the word appendix.

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REPORT

OF THE

STATE UNIVERSITY

OF IOWA.

OCTOBER 15, 1897.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

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STATE UNIVERSITY OF IOWA, }
SECRETARY'S OFFICE. }

To His Excellency, Francis M. Drake, Governor of Iowa:

SIR—I have the honor herewith to submit to you the biennial report of the board of regents of the State University of Iowa for the years 1895–6 and 1896–7, as provided by law—Code, section 2641. **Vèry respectfully,**

WM. J. HADDOCK,
Secretary of the Board, etc.

IOWA CITY, Iowa, October 15, 1897.

REPORT.

To His Excellency, Francis M. Drake, Governor of Iowa:

In compliance with law, the board of regents of the State University begs leave to submit the following report for the biennial period ending June 30, 1897.

We also submit, as a part hereof, the reports of the secretary and treasurer of the board, and of the president of the University, showing as they do in detail the condition and work of the University, with the amount and disposition of all funds received and expended under direction of the board of regents, as also the list of professors, instructors and officers.

An inspection of these reports will show in detail the financial resources and expenditures, and will answer many questions regarding the present condition and work of the University in its several departments.

ONE-TENTH MILL TAX.

The board feels, however, that there is due from it a more detailed statement of its disposal of the proceeds of the one-tenth mill tax voted by the Twenty-sixth General Assembly.

The income from the first year's tax under the law was devoted to the erection of a hospital for the medical department, supplying a deficiency which has oppressed and hampered the department for over twenty years. The erection of this building, now almost ready for occupancy, absorbed practically \$44,000 of the \$55,000 available. The remaining \$11,000 will be consumed by the equipment of the hospital and the erection of a steam heating plant upon the hospital grounds, now in course of erection, which will be of sufficient capacity when completed to heat not only the medical hospital, but also the chemical building and the homœopathic building and hospital, which are now heated by separate and independent plants.

The plant will also be sufficient to heat any other building which may yet be erected upon the same grounds, thus making a material saving in fuel, repairs and wages, and also reducing the chance of loss by fire.

We have thus, for the money already expended or contracted for, an isolated heating plant, not only sufficient for the present, but capable of heating all the buildings situated, or likely to be situated, within reach of it, and a hospital which we believe is the best in this state, and which, when completed, will be the equal for actual use of any in this country, a *model* hospital in every particular, and which, viewed simply from a business standpoint, should bring to the medical department enough additional students to make it not only self-supporting, as it practically now is, but a source of income to the University.

This long-needed addition to the facilities of our professional departments having been provided, it was the unanimous opinion of the board that our next expenditure should be directed to the relief of the collegiate department from the numerous disadvantages which have made its growth a continuous surprise and a continuous embarrassment to those upon whom fell the duty of providing room for more students and additional classes, when the facilities at command were utterly inadequate to the existing demands. With this in view, feeling that the collegiate department is, and should be, recognized as the very heart and center of the school, and that its continued well-being and advancement should be held our first and most important duty, the board has appropriated the proceeds of the next three years' tax to the erection of a collegiate building. The board has been engaged for several months in investigating the needs of the collegiate department and the probable cost of various proposed buildings, and finds that it will not be possible to construct for less than this amount a building of adequate size and proper character. The plans in view contemplate provision for an increase of 30 or 40 per cent in the attendance upon this department. Our records show that this attendance has increased fully 40 per cent since 1892-3, under most unfavorable and discouraging conditions. It will take three years to complete the building now under consideration, so that by the time it is ready for occupancy it will provide for an increase of not to exceed 20 per cent above the attendance at that time, even upon the basis of no increase in the rate of gain from increased facilities. Provision is simply being made

for the needs of the immediate future in the size of the building; and, as for the character of its construction, the board feels that, in view of the unfortunate experience of the state within the last biennial period, it would be justly condemned in planning for any construction except such as shall be practically fireproof. It is planned to use the surplus room in the collegiate building for the housing of the library in the first few years of its new and gradual growth. This can, however, only be for a short time and for a small number of books, and the necessity of immediate provision for a new fireproof library building is strongly urged.

This leaves the proceeds of one year's tax still unappropriated. This tax will become available in 1901. In view of the fact that this is four years in the future, and of the further fact that there is great doubt as to the actual amount which will be realized from the tax, owing to the change in the assessment laws, the board has not deemed it desirable to make any definite appropriation of this amount, whatever it may be. It is, however, recognized that the erection of the new collegiate building will necessitate a reformation of the heating plant upon the west campus which will include the building of a new boiler-house and the construction of a considerable length of new tunnel, as the present battery of boilers will have reached the end of its usefulness by that time, and is now taxed to its full capacity in heating the seven buildings already dependent upon it, while the size and location of the building in which it is now situated render it impossible for any extension of the present plant to be made. It will, at any rate, be utterly worn out in three years, and the provision of a new building and new boilers to replace it will consume from \$10,000 to \$15,000 of the last year's tax.

To sum up, the disposition made by the board of the one-tenth mill tax, \$55,000 has been spent for hospital and heating plant on the east campus, \$165,000 has been definitely appropriated for the erection of a collegiate building, and \$15,000 of the remainder will be needed for the erection of a new heating plant upon the west campus.

INCREASE OF ATTENDANCE.

It is particularly gratifying to the board to be able to report a substantial increase of the attendance in every department of the University. In those departments in which the increase does not seem to be proportionately as large as in others, it will

be found that the reason lies in the fact that either the requirements for admission or the requirements for graduation have been increased in following out the consistent policy of the board, and the various faculties, of making our different courses equal to any to be found elsewhere, so far as the requirements of our statutes render it possible. We refer to the president's report for a detailed statement of the attendance of the various departments, compared with that of previous years, and direct particular attention to the continued increase in the attendance in the collegiate department as demonstrating the absolute necessity of an increase in the permanent appropriation for support. Our professional departments are practically self-supporting. We simply provide them with space and with material for their teaching, and each student repays in fees practically the cost of what he receives. The situation of the collegiate department is utterly different. The student is not expected to pay for what he gets. The deliberate purpose of the state in establishing the college was to give much, all it felt able to give, and to take little, as little as it could. The state proposes to pay the difference between the small sum which the student pays and the many times greater sum which his instruction costs. It is a self-evident proposition that the more students accepting the state's proposals the more money the state must pay. A substantial increase in the attendance of the collegiate department means either a substantial increase in the amount provided for general support or a woeful falling off in the quality and quantity of the instruction which we have promised to those who would enter our classes.

CONDITION AND GROWTH.

The number of students taught in the University, in the last two years, 1,307 in 1895-1896, and 1,331 in 1896-1897, was an increase of about 17 per cent on the preceding biennial period. At this rate of increase the number of students educated at the University should double about every twelve years. The number has actually doubled in the last eight years.

The simple statement of these facts is sufficient to show both the steady growth of our University, and its constantly increasing needs. No better reason can be given why the board is compelled to ask every two years for additional support.

If in the next two years the attendance again increases from 17 to 25 per cent, as it ought to do, and surely will under anything like favorable conditions, there will be a like need for increased income to provide the increased facilities.

If anyone asks whether this continuous growth is necessary or desirable, let him study the conditions of university growth in all the adjoining states and compare them with Iowa, with her magnificent public schools, her unapproachable soil and climate, her inexhaustible financial and industrial resources, and her unsurpassed population, and then answer for himself the question whether or not our University ought to be kept in inferior rank for want of adequate support.

The increase in the attendance renders an additional annual appropriation of at least \$15,000 absolutely imperative, simply to maintain our present standard and give the students of next year just what was given to the students of this year, leaving progress and growth along new lines out of the question.

A FIRE CALAMITY.

For many years the board has called attention, in its reports, to the danger of the destruction of our library by fire, and the necessity of providing safe quarters for the large and constantly increasing number of valuable books so indispensable to the work of the school. Its worst fears were realized upon the 19th of June, 1897, when the general library of the University was almost totally destroyed by fire, originating from lightning. The fire was discovered at 4 o'clock in the morning, and before efficient help could be summoned practically all the books in the general library were ruined by either fire or water. The entire roof of the building fell in a blazing mass to the floor of the library and reading-room, consuming not only the books, but all the shelves, card indexes, and furnishings of every kind, burning through in many places and subjecting the delicate instruments of the physical laboratory in the rooms below to the disastrous effects of water, steam, and falling debris of every nature.

The Talbot collection, containing many books of great rarity and high cost, and particularly valuable to students of natural history, was partially saved, owing to its situation in the library room. A few particularly valuable books were saved from the librarian's office, but like most of those in the Talbot collection, water-soaked and grimy. Isolated volumes were found among the ruins of the cases in the general library, some quite unharmed, but almost all so torn and charred and water-soaked as to make it cheaper to buy new books than to attempt to restore the old ones to such condition as would make them

available for use. The walls of the building were left standing, the floor of the second story burned through in many spots, and the first story unharmed except for the loss of plaster on ceilings and walls. It was feared that the condition of the walls was such as to render repair of the building impossible, but the building committee caused them to be examined by a competent architect, and upon his report of their safety ordered the building re-roofed and repaired throughout in such a manner as to make it available for at least temporary use until a place of security can be provided for its valuable contents elsewhere. It is now in rough but usable condition, affording shelter from the elements, but little more.

Much of the apparatus of the physical laboratory was removed hastily from the building during the fire and without the care necessary in handling such delicate machinery. Some damage was done in this way, but more by falling plaster and all-pervading moisture. It has since been replaced in the rooms formerly occupied with little actual loss of apparatus, but at considerable expense for repairs and adjustment.

The loss from fire can be summarized as follows:

First.—Upon building, \$3,000, with probably \$250 or \$300 yet to be added for repairs to heating and lighting apparatus, piping for steam and gas, and radiators and gas fixtures.

Second —The amount expended in caring for books and apparatus saved in damaged condition, which includes repair and readjustment of apparatus in physical laboratory, \$2,000.

Third.—The amount necessary to refurnish the library and reading-room with book-shelves, tables, chairs, and the proper cabinets and cases for card catalogues and indexes, \$1,000.

Fourth.—The loss upon books, \$76,000.

The report of the librarian shows that there were destroyed 23,227 books in the general library, and 1,500 books in the Talbot collection. The secretary of the board has gone through the bills of books purchased during the last ten years, and finds that the average cost per volume has been practically \$3, making the loss in the general library \$69,681. The books of the Talbot collection average much higher in price, making the loss here not less than \$6,000, a total loss of \$75,681. This does not take into account the loss of the valuable collection of pamphlets, numbering 15,000.

PRESSING NEED FOR BOOKS.

The loss of the library left many of the chairs of the University absolutely without books, a condition which, if not remedied before the beginning of the collegiate year, meant a most serious injury to the collegiate department for the school year of 1897-98. In the absence of action on the part of the legislature at its special session of July, 1897, the board found itself confronted by the necessity of providing in some way funds for the purchase of such books as were indispensable. This provision was made in the following manner. The University has 680 acres of land, donated to it at various times by individuals. These lands are not part of the University land-grant, but can be sold at any time, and the proceeds expended for such purposes as the board may direct. In this emergency the board ordered the sale of these gift lands at not less than appraised value, and directed the issuance of warrants against the funds thus to be provided, the proceeds of the warrants to be devoted to the purchase of the necessary books. It has not been possible to sell these lands, and they still stand in pledge for the payment of the warrants issued against their sale to the amount of \$6,800. The present is not a favorable time to sell lands, and the board earnestly hopes that it may be relieved from the necessity of sacrificing these gift lands by the appropriation of a sum sufficient to take up the warrants in question.

As shown above the necessities arising from the library fire are as follows:

The appropriation of \$3,300 for the repair of library building; of \$2,000 for expense in saving and caring for books and physical apparatus; of \$1,000 for refitting library and reading room; of \$6,800 to take up warrants issued against the gift lands, and of not less than \$75,000 for the purchase of books to replace those burned.

The appropriations for the first four items above, aggregating \$13,100, should be made available at the earliest possible time, but that for the purchase of books can be extended over a term of, say five years, making \$15,000 available each year. The board cannot handle more than \$15,000 worth of books each year, and have them properly registered, indexed, and catalogued by the present force of the library in addition to its ordinary work. It also recognizes the necessity which will confront the legislature of keeping down the total of appropriations, and therefore asks not the appropriation of \$75,000 for

immediate expenditure, but for an appropriation of \$15,000 per annum for the next five years. This will simply place the University in June, 1908, where it stood as to library facilities in June, 1897, providing neither for the increased demands upon the library in the meantime, nor for the proper protection of the library from such a disaster as has just overwhelmed it. The board has, in report after report, dwelt upon the necessity of a fireproof building for the library and museum. The present situation is the result of the continued refusals to provide one, and the board feels that no representations which it could make, no arguments which it could bring to bear, could make more evident the folly of persisting in the policy of the past. Provision can be made, two or three years hence, for the temporary protection of the library in the collegiate building, but the quarters which can be afforded it here are limited and inconvenient. Provision should be made for the commencement of a fireproof library building immediately upon the completion of the collegiate building, if not before.

COLLATERAL INHERITANCE TAX FOR GENERAL SUPPORT.

An extremely desirable thing in University finances would be the provision of some source of income which should yield increased returns as the state increases in population and wealth, and which should thus in some measure keep step with the constantly increasing demands upon the University. The ideal method of attaining this object would be by the imposition of a fixed tax for university purposes, such as is imposed by those western states whose universities have attained the greatest success. In the absence of a tax of this nature for support, the devoting of the proceeds of certain forms of taxation to this purpose is adopted in other states. The president of the University in his report suggests the devotion of the income from the tax upon collateral inheritances to the general support fund of the University. This being a new tax in this state, such disposal of it would not mean the diversion of funds hitherto used for other purposes, nor would it necessitate any increase in tax levy to provide the increased income to the University. The board heartily recommends that this suggestion be followed out. The income would doubtless be quite insignificant for some years, but as the state grows in wealth and population a considerable sum would doubtless accrue to the University each year from this source.

LAW LIBRARY.

The law library, being in a separate building, escaped destruction in the fire of June 19th. This library is, however, in great need of additional funds. Its former appropriation of \$1,250 per annum was reduced by the Twenty-fifth General Assembly to \$500, the result being that the keeping up of many sets of reports and other publications has been abandoned on account of the lack of funds. The great value of most of these series lies in their completeness, and we earnestly recommend that there be appropriated not less than \$5,000 for the law library for the next biennial period, in order that its development may be consistently and continuously carried forward.

REPAIR AND INCIDENTAL FUND.

The large amount of grading, sodding, and general clearing up rendered necessary by the erection of the new hospital, and the fire and consequent building operations in and about the library building, new walks needed where old ones are worn out, and where none are now laid, and above all the necessity of providing additional and better water-closets, make it impossible for the board to get along without a repair and contingent fund of at least \$10,000 for the biennial term. Some of our buildings, approaching the end of their term of usefulness, call continuously for repairs, and the continual necessity of finishing rooms in the basements and garrets, and of adjusting existing rooms to new uses, which is the consequence of our overcrowded condition, make a large expenditure for this purpose unavoidable.

The appropriation of \$1,000 per annum for university publications is asked. These include the Natural History Bulletin, The Transit (an engineering journal published by the faculty and students of that department), The Law Bulletin, and other publications embodying the results of independent and original research along their chosen lines by the professors of the various chairs and their advanced students. They are valuable to the University as preserving in permanent form the results of work carried on by the University in its various laboratories, and as a means of advertising the high character of the work for which we offer facilities. The amount expended is very small compared to the benefit received, and we earnestly recommend its appropriation.

The University is in receipt of an invitation from the Trans-Mississippi and International exposition to make an exhibit at

the exposition to be held at Omaha during the summer of 1898. The board believes that such an exhibit would be an extremely desirable advertisement for the University, and the different faculties would be glad to prepare creditable exhibits of the work done in their various lines. But in the absence of funds available for this purpose the board is unable to take any action in the matter. It is very desirable that the University be equally well represented with other schools of the same standing, and to that end it is requested that an appropriation of \$2,000 be made for the purpose of preparing and maintaining an exhibit at the said exposition.

To maintain the standard of the work done in the various sub-departments giving laboratory instruction, it is necessary not only to constantly provide new apparatus and additional equipment, but also to make liberal provision for the supply of materials for use in their various lines of experiment and investigation. For this purpose we recommend the following specific appropriations for the next biennial period:

Physical and electrical laboratory.....	\$ 2,000
Zoological laboratory	2,000
Geological laboratory	1,000
Botanical laboratory	1,000
Psychological laboratory	1,000
Morphological laboratory	1,000
Department political science	1 000

Respectfully submitted,

HENRY SABIN,
SHIRLEY GILLILLAND,
W. R. MONINGER,
J W. GARNER,
F W. MAHIN,
ALONZO ABERNETHY,
PARKER K. HOLBROOK,
HARVEY INGHAM,
CHARLES E. PICKETT,
W. D. TISDALE.

PROFESSORS, INSTRUCTORS, OFFICERS, ETC.

Following is a schedule of the names of professors, officers and other employes of the University, together with salaries and pay of each for the current year:

COLLEGIATE DEPARTMENT.

Amos Noyes Currier, A. M., LL. D., professor of Latin language and literature, and dean of the collegiate faculty.....	\$ 2,200
Samuel Calvin, A. M., Ph. D., professor of geology.....	2,200
Thomas Huston Macbride, A. M., professor of botany.....	2,200
Launcelot Andrews, Ph. D , professor of chemistry.....	2,200
George Thomas White Patrick, Ph. D., professor of philosophy....	2,000
Charles Bundy Wilson, A. M., professor of German language and literature, and secretary of the collegiate faculty.....	2,000
Andrew Anderson Veblen, A. M., professor of physics.....	2,000
Laenas Gifford Weld, A. M., professor of mathematics.....	2,000
Charles Cleveland Nutting, A. M., professor of zoology.....	2,000
Isaac Althaus Loos, A. M., professor of political science.....	2,000
Joseph Jasper McConnell, A. M , professor of pedagogy.....	2,000
William Craig Wilcox, A. M., professor of history.....	1,800
Frederic C. L. van Steenderen, A. M., professor of French language and literature.....	1,400
Hanson E. Ely, first lieutenant 17th Infantry, U. S. A., professor of military science and tactics.....	-----
Alfred Varley Sims, C. E , professor of civil engineering.....	2,000
*George Armstrong Wauchope, M. A., Ph. D., professor of English language and literature.....	1,800
†William Peters Reeves, Ph S., professor of English language and literature (on salary for English chair).	-----
Leona Angeline Call, A. M., assistant professor in charge of Greek language and literature.....	1,300
Gilbert L. Houser, M. S., assistant professor in charge of animal morphology and physiology.....	1,000
Charles Scott Magowan, A. M., C. E., assistant professor of civil engineering.....	1,500
Bohumil Shimek, C. E., assistant professor of botany and curator of the herbarium.....	1,200
Henry F. Wickman, M S., assistant professor of zoology and assistant curator of the museum.....	1,000
Carl E. Seashore, Ph. D., assistant professor of philosophy.....	1,000

* Until December 31st.
† After December 31st.

Pauline Kimball Partridge, instructor in elocution.....	\$ 300
F. B. Sturm, instructor in German.....	900
Percy H. Walker, instructor in chemistry.....	900
Arthur G. Smith, A. M., assistant professor of mathematics.....	1,000
Benjamin F. Shambaugh, A. M., Ph. D., professor of political science.....	1,000
George Cram Cook, A. B., instructor in English.....	800
Franklin Hazen Potter, A. M., assistant professor in Latin.....	1,000
George N. Bauer, B. S., instructor in mathematics.....	750
Harry Grant Plum, A. M., instructor in history.....	800
Herbert C. Dorcas, B. Ph., instructor in pedagogy.....	900
Charles Henry Bowman, B. Ph., instructor in physics.....	800
Joseph H. Ridgway, taxidermist.....	800
Louise Elizabeth Hughes, A. M., instructor in Latin.....	800
Fred. D. Merritt, B. S., instructor in mathematics.....	600
Carl Schlenker, A. B., instructor in German.....	900
H. Foster Bain, M. S., Ph. D., lecturer on economic geology.....	100
Harry Eugene Kelly, B. Ph., instructor in English.....	800
Della S. Hutchinson, B. Ph., instructor in French.....	600
Russell T. Hartman, B. S., instructor in engineering.....	500
Lester T. Jackson, A. B., instructor in chemistry.....	300
C. H. Van Law, A. B., fellow in political science.....	500
Alburtus J. Burge, assistant in botany.....	300
M. Roberta Holmes, A. M., fellow in Latin.....	-----
Charles F. Lorenz, B. S., assistant in physical laboratory.....	300
George Lyman Grimes, B. S., mechanician and assistant in physical laboratory.....	400
Thomas E. Savage, B. S., assistant in geology.....	200
Mary Laura Otto, B. Ph., assistant in botany.....	-----

LAW DEPARTMENT.

Emlin McClain, A. M., LL. D., chancellor, and resident professor of law.....	3,250
Samuel Hayes, M. S., LL. B., resident professor of law.....	2,300
James A. Rohbach, A. M., LL. B., secretary, and resident professor of law.....	1,700
John J. Ney, LL. B., resident professor of law.....	1,000
Edward P. Seeds, LL. B., resident professor of law.....	1,500
L. G. Kinne, LL. D., lecturer on law.....	200
Gifford S. Robinson, LL. D., lecturer on law.....	100
Martin J. Wade, LL. B., lecturer on law.....	250
Horace E. Deemer, LL. B., lecturer on law.....	100
Leonard C. Rinard, LL. B., librarian.....	400
Lecturers.....	100
Two assistant librarians.....	50

MEDICAL DEPARTMENT.

John Clinton Shrader, A. M., M. D., LL. D., professor of obstetrics, gynecology, clinical gynecology, and diseases of children.....	950
William Drummond Middleton, A. M., M. D., dean of the faculty, and professor of surgery and clinical surgery.....	950

Lawrence William Littig, A. M., M. D., M. R. C. S., professor of theory and practice of medicine, and clinical medicine, and assistant to the chair of surgery	\$ 1,050
James Renwick Guthrie, A. M., M. D., professor of physiology and associate professor of obstetrics, gynecology, and diseases of children.....	1,250
Elbert William Rockwood, B. S., M. D., professor of chemistry and toxicology, and secretary of the faculty.....	1,700
James William Dalbey, B. S., M. D., professor of ophthalmology....	350
Charles Sumner Chase, A. M., M. D., professor of materia medica and therapeutics	950
Walter Lawrence Bierring, M. D., professor of histology, pathology, and bacteriology, and curator of the medical museum.....	1,400
John Walter Harriman, M. D., professor of anatomy.....	1,500
Martin J. Wade, LL. B., professor of medical jurisprudence.....	-----
Charles Moore Robertson, A. M., M. D., professor of otology, rhinology and larynology	250
William Robert Whiteis, M. S., M. D., assistant professor of histology	1,000
Gershom H. Hill, A. M., M. D., lecturer on insanity	150
Frank Thomas Breene, D. D. S., M. D., lecturer on dentistry	-----
Emil Louis Boerner, Phar. D., instructor in pharmacy.....	-----
William Edward Barlow, B. A., demonstrator of chemistry	800
Wilber John Teeters, B. S., Ph. C., demonstrator of chemistry	700
Lee Wallace Dean, M. S., M. D., demonstrator of anatomy.....	600
John T. McClintock, A. B., demonstrator of pathology and bacteriology	175
Assistant medical librarian.....	20
Assistant demonstrator.....	15
Two assistants to chair of anatomy	20

HOMŒOPATHIC MEDICAL DEPARTMENT.

Wilmot H. Dickinson, M. D., professor of theory and practice and clinical medicine, and dean of the faculty.....	1,000
James G. Gilchrist, A. M., M. D., professor of surgery and surgical gynecology, and registrar of the faculty.....	1,200
Charles H. Cogswell, M. D., professor of obstetrics and diseases of women	535
George Royal, M. D., professor of materia medica and therapeutics	950
Frank J. Newberry, M. S., M. D., O. et A. Chir., professor of ophthalmology, otology and paedology.....	600
Raymond E. Peck, M. D., house surgeon.....	100
Theodore L. Hazard, M. D., assistant to the chair of materia medica	-----
Fred J. Becker, M. D., assistant to the chair of surgery.....	-----
Samuel N. Watson, A. M., M. D., assistant to the chair of theory and practice.....	-----
Ralph W. Homan, M. D., assistant to the chair of ophthalmology, etc.	-----
Adele P. Kimball, M. D., matron.....	-----
Leora Johnson, M. D., clinical assistant to the chair of surgery....	-----

DENTAL DEPARTMENT.

F. T. Breene, M. D., D. D. S., professor of operative dentistry and therapeutics	\$ 1,400
William S. Hosford, A. B., D. D. S., professor of prosthetic dentistry and crown and bridge work, superintendent of clinics, and secretary of the faculty.....	1,700
W. H. DeFord, A. M., M. D., D. D. S., professor of oral pathology and hygiene.....	1,000
A. E. Rogers, D. D. S., lecturer on dental anatomy.....	1,250
R. W. Baldwin, D. D. S., lecturer on regional anatomy.....	1,250
Helen Baschnagel, clerk.....	350
C. B. Lewis, D. D. S., demonstrator of dental technology.....	360
F. B. James, D. D. S., demonstrator of dental technology.....	360
J. E. Fleener, D. D. S., lecturer on orthodontia.....	300
Charles Cleveland Nutting, A. M., lecturer on comparative odontology.....	50
Special lecturers.....	500

PHARMACY DEPARTMENT.

Emil L. Boerner, Ph. G., Phar. D., professor of pharmacy, director of the pharmaceutical laboratory and dean of the faculty.....	2,000
Georgia Knapp, Ph. G., assistant in pharmaceutical laboratory....	300
Lula Beall Jester, Ph. G., assistant in pharmaceutical laboratory..	300
Charles S. Chase, A. M., M. D., professor of materia medica.....	100
Thomas H. Macbride, A. M., professor of pharmacognosy and director of microscopical laboratory.....	300
Clerical help vacation.....	100

OFFICERS, LIBRARIANS AND ASSISTANTS.

Charles A. Schaeffer, A. M., Ph. D., LL. D., president.....	5,000
William J. Haddock, secretary.....	2,000
J. W. Rich, librarian.....	1,500
Lovell Swisher, treasurer.....	800
Emma Haddock, assistant secretary.....	600
Alice B. Chase, stenographer.....	325
Bertha G. Ridgway, assistant librarian.....	600
Metta Loomis, second assistant librarian.....	300

JANITORS, ETC.

George Tomlin, general janitor, per month.....	40
William Green, medical janitor, per month.....	40
James Klema, fireman chemical building, etc , per month.....	35
John Carville, science hall janitor, per month.....	30
E. A. Spraker, dental custodian and janitor, per month.....	40
Ellen Hennessey, dental sweeper, per month.....	20
John C. Miller, chemical building janitor, per month.....	30
Kate Katzenmeyer, chemical building sweeper, per month.....	20
Mary Churchill, sweeper, per month.....	17
Lydia A. Rogers, sweeper, per month.....	17
Jessie Cunningham, sweeper, per month.....	17
Robert J. Stonebreaker, homeopathic hospital janitor, per month..	20

James F. Miller, philosophical building janitor, per month	\$ 20
Honorah O'Connell, pathological janitor, per month	15
William Barry, general fireman and laborer (see note)	-----
-----, assistant fireman, when needed, per month	30
William Matthes, night fireman, per month	36
James Barry, watchman, per week	9

NOTE—The scrubbing women, when extra scrubbing is required, are paid \$1 for ten hours' work. The general fireman for main building receives \$1.75 per day for twelve hours, and a less sum for fewer hours. Laborers, when required, are paid the usual wages for similar work.

REPORT OF THE PRESIDENT.

REPORT OF THE PRESIDENT.

STATE UNIVERSITY OF IOWA, }
October 1, 1897.

To the Honorable, the Board of Regents:

GENTLEMEN—I have the honor to submit herewith my bien-nial report for the period from June 30, 1895, to June 30, 1897. The number of students in attendance is shown in the following table, the enrollment of 1894-5 being given for the purpose of comparison:

SUMMARY OF ENROLLMENT.

CLASSES.	1894-5.	1895-6.	1896-7.
<i>Collegiate Department—</i>			
Graduate students.....	59	75	98
Seniors.....	71	62	83
Juniors.....	63	84	82
Sophomores.....	104	91	133
Freshmen.....	158	202	206
Special students.....	35	58	42
Total.....	490	572	644
<i>Law Department—</i>			
Seniors.....	76	109	87
Juniors.....	136	109	128
Total.....	214	218	215
<i>Medical Department—</i>			
Graduate students.....			1
Seniors.....	43	46	65
Juniors.....	62	81	73
Sophomores.....			2
Freshmen.....	84	75	69
Special students.....	2		4
Total.....	191	202	214
<i>Homœopathic Medical Department—</i>			
Graduate students.....	3	6	2
Seniors.....	17	19	18
Juniors.....	22	23	9

SUMMARY OF ENROLLMENT—CONTINUED.

CLASSES.	1894-5.	1895-6.	1896-7.
Sophomores	-----	10	15
Freshmen	28	21	25
Pre-matriculantes	1	-----	-----
Total	71	79	69
<i>Dental Department—</i>			
Seniors	26	35	38
Juniors	44	51	92
Freshmen	79	129	57
Spring term	14	-----	-----
Total	163	215	187
<i>Pharmacy Department—</i>			
Seniors	8	18	19
Juniors	59	64	43
Total	67	82	62
Grand total	1,196	1,368	1,391
Deduct for names counted twice	62	61	57
Total number of students	1,134	1,307	1,334

DEGREES CONFERRED.

CLASSES.	1894-5.	1895-6.	1896-7.
<i>Collegiate Department—</i>			
Bachelor of Arts	10	10	15
Bachelor of Philosophy	45	28	44
Bachelor of Science	14	16	19
Civil Engineer	1	-----	-----
Master of Arts	3	7	6
Master of Science	4	1	2
Total	77	62	86
<i>Law Department—</i>			
Bachelor of Laws	71	105	83
<i>Medical Department—</i>			
Doctor of Medicine	43	43	60
<i>Homœopathic Medical Department—</i>			
Doctor of Medicine	16	19	16
<i>Dental Department—</i>			
Doctor of Dental Surgery	25	33	34
<i>Pharmacy Department—</i>			
Graduate in Pharmacy	2	16	11
Total	234	278	290

Copies of the annual catalogues for 1895-6 and 1896-7 are herewith submitted, in which are exhibited the different courses of study pursued, the branches taught, the means and methods of instruction adopted, and the number of students, with their names, courses and residences.

The record of the past two years is one of which the board has good reason to be proud. In spite of the financial depression, the effects of which have been keenly felt in the north central states, the University has made steady progress in the number of students, in the strength and efficiency of its corps of instructors, in its material equipment, and in the thoroughness and improved standard of its courses of study. The high schools of the state are doing better work than formerly, and their graduates are entering our freshman class with much better preparation; and we are consequently enabled to do far better work with them than was formerly the case. The standard for admission to the two medical departments has been raised, so that only graduates of the high schools, or such as have had an equivalent amount of preparatory work, may be admitted. And this step, without diminishing the attendance in those departments, has had a most beneficial influence on the quality of the entering classes. At the same time the standard required for admission to the dental department has also been raised; though not as yet to the same amount as in the two medical departments. In another year or two, however, it is proposed to bring the dental department up to the same plane in the matter of its requirements for admission. In the two medical departments, the four years' course has been begun, and the course itself has been made two weeks longer than formerly; while in the dental department the course has been extended from six months to nine months each year.

The natural history museum has continued to grow at as rapid a rate as it has maintained for the past ten years. It has long since outgrown its present quarters, and until a new building for its reception and safe-keeping is provided, very little more in the way of its extension can be accomplished.

Two years ago the biological laboratory was placed on an independent footing, and since then its development has been most satisfactory. Although occupying one-half of the first floor of the science building, it is already seriously cramped for room, and more assistance is needed for the work of instruction. The number of students at present working in that subject is fifty-nine; but, on account of the lack of accommodations,

it was found necessary to refuse more than twenty others who applied for admission at the beginning of the current term.

The subdivision of the work in geology and biology has also enabled the professor of geology to materially expand the work in his department, resulting in a decided increase in interest in that subject, as manifested by the students in science. But a still farther extension is urgently needed, and I beg leave to repeat what I have already reported to you, that it is highly desirable that as soon as possible a professorship of mineralogy and lithology be established. We are not giving the instruction in this direction that may justly be expected of a well equipped university, and it is sincerely hoped that we may be able to repair this deficiency at an early day.

The very marked interest in the study of political science and political economy has necessitated a considerable expansion in that department, requiring the services of two full professors and an instructor where three years ago the whole work was easily done by a single professor. So great, in fact, is the demand for instruction in the various topics of political and social science that were our instructing force doubled, or even trebled, I am confident that such a move would result in a large increase in the number of students, and that the increased force of instructors would be just as actively employed as are those who are at present thus engaged.

In consideration of the numerous political and social heresies and absurdities which have from time to time swept over our land, and which have done so much to retard the growth and development of the nation, it would seem that one of the highest duties of a state university, in preparing for citizenship the youth committed to its care, should be to infuse into them right ideas in this direction. It should teach them how to discriminate between the true and the false; it should show them the financial and sociological mistakes of our own and of other nations; and it should instruct them how to avoid the dangers of the false doctrines which have from time to time captured the popular fancy. In short, a school of history and political science, in all its bearings, is to my mind one of the things which every state university should provide, and I earnestly hope that Iowa will be so provided at no distant day. And, in the meanwhile, I bespeak your especial care for the work which is already in hand, trusting that, as the way may be opened to you, you will continue to strengthen the work in this department as far as the means at your disposal will permit.

As concerns the work of the law department I must again call your attention to the great need of more room. The reading-room and library are altogether too small to accommodate the students in attendance, and there is only one room available for all the lectures and recitations. No further growth of the department can be expected until it is provided with more ample quarters. In order to advance the standard of legal education and to put our own department on the same plane with the best schools of the country, it is earnestly recommended by the faculty that as soon as possible the required course be extended to three years, and this measure is heartily indorsed by the bar association of Iowa. But clearly this cannot be done until the law of the state, which requires only two years of study, shall be amended. With the co-operation of the members of the bar it is hoped that this increase in the requirements can soon be brought about, when the change in the length of the course can be made without disaster to the department.

The pharmacy department is the one department of the University which has shown a decided diminution in numbers. What the causes of this may be it is difficult to indicate, but it probably is the result of several forces which have tended in that direction. The tuition fees in this department have until the present year been higher than in any other, and it may be that the severity of the times has had something to do with the diminished attendance, many who would have otherwise attended being compelled to earn their living in drug stores. Or, it may be that the requirements of the state pharmacy board are not sufficiently high to induce young men to take a thorough course in pharmacy, as large numbers are able to pass the examination of the board after the required term of experience in a pharmacy. But in either case the revival of industry will certainly have a beneficial influence on the attendance by another year.

That the benefits of a university education may be brought within the reach of as many as possible I respectfully recommend the adoption of the plan of county scholarships at present in force in New York and Illinois. In accordance with this plan examinations are held in each county of the state by the county superintendent of schools. The state superintendent, aided by the president of the University, has general charge of the examination, and the candidate who passes the best examination on the subjects required for admission to the University,

or on any part thereof, as previously announced, is awarded a free scholarship for the four years of his course. This University is certainly growing more and more each year in the affections and esteem of the people of the state, but it seems to me that the adoption of this scheme, of which I have merely sketched the outlines, would go a great way towards establishing it on a still firmer foundation. If in your opinion the suggestion seems wise and feasible I trust that your legislative committee may be authorized to draft a bill for introduction at the session of the Twenty-seventh General Assembly.

The first fruits of the one-tenth mill tax which was voted by the Twenty-sixth General Assembly to the University for the erection of buildings are seen in the new hospital of the medical department. This handsome building, which will be completed and ready for use about January 1, 1898, is a valuable acquisition for the department, and will undoubtedly enable it to develop its clinical facilities to a much greater extent than has hitherto been possible. Some misunderstanding as to the use of this hospital seems to have arisen, but since the publication of the rules for the government of the hospital, adopted at your meeting in June last, wherein it is shown that the hospital is to be open to all reputable practitioners in the state who may wish to make use of it for their patients, no further complaints have been heard.

The loss occasioned by the burning of the general library in June last is one which should be made good at the earliest possible moment. All of our other facilities will not suffice unless a large number of books are speedily provided. And for the proper preservation of the books a fireproof building is absolutely necessary. A building such as this University needs can not be constructed for less than \$150,000. And it must be borne in mind that, desirable as such a building is, it must not be allowed to take the precedence of the collegiate building to which, as was decided at your last meeting, the next three years' income of the state tax are to be devoted. In order to do good work, to make the best use of the time both of faculty and students, a liberal appropriation for books is essential, and at the same time the library should not again be exposed to the danger of fire. But on the other hand we cannot delay the erection of the collegiate building. There are more students to-day in the collegiate department than there were in all six departments ten years ago. The only increase in the accommodations

for the department since that time consists in the removal of the chemical work to the new laboratory and the transfer of the work in philosophy and in pedagogy to the small building formerly occupied by the homœopathic medical department. In addition to the foregoing we are now renting for chapel purposes and for special lectures the large assembly room in the Y. M. C. A. building, as also four smaller rooms used as recitation-rooms. The armory has been converted into a temporary recitation-room, very greatly to the inconvenience of the military department. Each year one, two, or three additional recitation-rooms are required in consequence of the necessary subdivision of unwieldy sections. At the opening of the current term one more room was obtained in the Y. M. C. A. building, but that is positively the last that can be found anywhere in the neighborhood. Should more rooms be necessary next September, the only way out of the difficulty will be to hire a private house; and available houses are not by any means abundant. To sum up: with steadily growing classes in the collegiate department we have reached the limit of our capacity, and it will be two or three years before additional accommodations can be provided, and in the meantime it probably will be necessary to refuse admission to many worthy candidates. Under the circumstances, notwithstanding the great importance of the library and its fire-proof building, I respectfully submit that nothing should be allowed to interfere with your plan of erecting the collegiate building at once, and that an earnest appeal be made to the Twenty-seventh General Assembly for means wherewith to provide for the library.

But the one matter of vital importance which must be brought to the attention of the general assembly is the absolute impossibility of successfully carrying on the work of this University unless a considerable increase of revenue is provided. The superintendent of public instruction reports that in Iowa \$24.50 is expended for each pupil in the public schools. But it is the universal experience that the higher the grade of instruction the greater the necessary cost. More teachers, more room, more apparatus, more books, require a much greater outlay than in the public schools. Ten years ago the cost at this University per student, per annum, was \$135. Since then the number of students has more than doubled, and although the income has also increased, the rate of increase has not kept pace with the growth in numbers, for during the last year

covered by this report the expenditure per student was reduced to \$110. At the University of Michigan the present cost per annum is just about what ours was ten years ago; at the University of Wisconsin it is about \$250; at Harvard, over \$300; at Columbia, over \$400. Now, whilst we are perfectly willing and even anxious to practice every reasonable economy, and have in fact constantly done so, nevertheless, there is a limit beyond which that operation cannot safely be pushed. An individual may for a limited time live on short rations, but if such a course is persisted in too long the inevitable result is derangement and ultimate cessation of the vital functions, and so it is with an institution whose object is the higher education of the youth. Professors may for a time be willing to do work for which assistants should be employed at lower wages; they may make shift to get along without needed apparatus or books; buildings may last a long while without the necessary repairs; the university grounds may be neglected, but sooner or later there must come a time when the conviction is forced upon the students that they are not supplied with the facilities which those at other institutions are enjoying, and very quickly they will be found flocking to other places. To avoid such a result, to prevent the discrediting of this University in the eyes of all enlightened and educated people, I respectfully submit that an increase of its annual income for current expenses to the extent of at least 50 per cent over the present amount is absolutely necessary, or it cannot continue to do the work which the people of the state have the right to expect of it.

Inasmuch as the year just passed completes the period of ten years since I first assumed the duties of my office, I may be pardoned for reminding you of some of the changes that have taken place in that time.

In the first place not a single member of the board of regents of that time is to be found on the board of to-day; in this respect an entire change has been made.

In 1887 the total number of students was 571; in 1897 it was 1,334. In 1897 the collegiate students alone (644) outnumbered the students of all departments in 1887. Then the number of instructors of all grades was 48; it is now 101.

In the year 1886-87 the income from fees and tuition was \$17,768.23; in 1896-97 it amounted to \$54,783.61. Ten years ago the total income was \$95,254.11; it has now grown to \$146,799.59.

But the rate of improvement in equipment has been even

greater than the increase in the number of students and instructors. And this is especially true in the various laboratories of the University. In 1887 the chemical laboratory consisted of a small room with tables for sixteen students; the laboratory for biology and physiology, and the botanical laboratory, were both scantily equipped. And these three were all that were provided for the collegiate department, there being no physical laboratory whatever. In the medical department there was a small chemical laboratory, but the work therein was not required. The pharmacy laboratory at that time was located in the basement of the medical building, and was capable of accommodating only about twenty-five students.

At the present time there are to be found in the chemical laboratory each year about four hundred students; the pharmacy laboratory is sufficiently ample and well equipped to accommodate the department for years to come; the physical laboratory is well provided with apparatus; and there have been added to the list laboratories for practical work in geology, in histology, in bacteriology and pathology, in psychology, in zoology, and in engineering, and excellent work is being done in all of them.

Considering the limited amount of funds available for the purchase of books the growth of the library is remarkable. Ten years ago the University possessed about 18,000 volumes. In 1897 the number had increased to 43,000, a gain of 25,000. But unfortunately the fire of June 19th destroyed just about the number that had been gained, so that we are now, so far as regards the number of volumes, just about where we were ten years ago.

In 1887 the natural history museum was in its infancy, the collections being small and incomplete. So rapid has been the growth in this direction that for the past two or three years it has been scarcely possible to display any additional specimens, and a large amount of material that has been received has been necessarily consigned to either the cellar or the garret, to await the day when more ample quarters may be provided.

In the year 1887 there were offered to the students of the collegiate department 113 courses of study, each extending through a single term. During the year just closed there were given, on the same basis, 237½. But this statement does not give a fair idea of the many new subjects which have been

added to the curriculum since the comparison is made on the basis of full studies; that is, five hours each week for one term. As at present there are many courses of one, two or three hours per week it follows that the number of separate courses is really much larger than the figure last mentioned.

A notable improvement in the method of work is seen in the introduction of the seminary, which has been adopted by all of the chairs in the collegiate department not provided with laboratories. The beneficial effects of this method on the upper classmen, in stimulating them in the direction of original work, are readily observable, and the standard of scholarship in the department has been materially elevated thereby.

The past ten years have also witnessed some valuable contributions to science and literature on the part of a considerable number of the members of the faculty. Not to mention the large number of contributions which they have furnished to a variety of magazines and periodicals, nor the books which they have written, the University has wisely adopted the policy of issuing from time to time a series of publications, each of which has taken a high rank in its particular field, such as the Historical Monographs, the Natural History Bulletin, the Law Bulletin, Studies from the Psychological Laboratory, and the Bulletin of the Homeopathic Medical Department.

In the law department a marked increase in efficiency has been brought about by the substitution of resident professors for nonresident lecturers for the main work of the course. Ten years ago we had but two resident professors; we now have four who give their entire time to the work of the institution. The very considerable growth of the law library is also well worthy of mention.

In the medical and homœopathic medical departments a very great development has taken place. In 1887 it was possible for a student to enter with very moderate educational attainments and to be graduated as a doctor of medicine after two courses of five months each. To be sure, a third course of the same length was open to the candidate, but it was not required. Since then the requirements have been from time to time increased so that the course now consists of four years of six months, and at the same time candidates for admission must have completed a high school course or pass an examination on equivalent studies. Furthermore, the curriculum has been greatly enriched and expanded by the addition of new courses

of instruction, not previously given, and more especially by the establishing of the laboratories for practical instruction in histology, in bacteriology, in pathology, and in physiology. The work done in the chemical laboratory is much more extended, and far more thorough than formerly and the same may also be said of the various clinics of the two departments.

Ten years ago the homœopathic medical department had no hospital whatever. To-day it has under its control a well equipped hospital sufficient to accommodate from forty to fifty patients, and is thus enabled to give its students the benefit of the practical experience to be gained therein.

The hospital facilities of the medical department have never been entirely satisfactory to the faculty, but the new hospital now in course of erection, and which will probably be ready for occupancy about January 1, 1898, will put the department on a firm footing and assist very materially in its legitimate work. A hospital is the one laboratory which is absolutely necessary to the efficiency of a medical school, without which its whole course of instruction must have but little practical effect. To have finally secured a commodious, modern hospital, complete in all its appointments, after so many years of patient waiting, is something on which the faculty of the department may be most heartily congratulated.

In 1887 the course of instruction in the dental department extended over two years of five months each, while the educational standard required of candidates for admission was very low. The equipment was meager, the quarters assigned were inconvenient and cramped and the clinics decidedly restricted. At the present time we find the course extended to three years of nine months each, whilst the requirements for admission have steadily been raised so that now one year's high school course is required, this to be followed in '98 by two years, and in '99 by three years. The department is now supplied with a special building well adapted to the purposes for which it was designed, the equipment is ample, and the clinics are patronized by several thousand patients each year.

In the ten years under review four new buildings have been erected, namely, the chemical laboratory, the dental building, the homœopathic building and hospital, and the medical hospital now almost completed; all of these at a cost to the state of less than \$150,000. And to this list may fairly be added Close

hall, the home of the Y. M. and Y. W. C. A., since this building, erected by private subscription, though not the property of the University, nevertheless serves a useful and valuable purpose in the life of the students of all departments.

The grounds devoted to university purposes have in the same time been doubled in extent by the acquisition of the athletic park, comprising about ten acres, and by the gift of the park by the city. And this gain has also come to us without any expense on the part of the state.

The University sent forth its first graduate in 1858. In June, 1887, the total number of graduates was 2,643; in 1897 it had grown to 4,752.

But undoubtedly the greatest gain which the University has made in the past decade has been in the remarkable growth of loyalty and devotion on the part of its students and alumni and in the ever increasing interest in its doings and its progress on the part of the people of the state, upon whom it must always depend for its support. In many ways it has recently been made evident that it has won a warm place in the affections of students and alumni, and as a natural result the state at large has come to its assistance in a far more substantial manner than ever before. Let us be thankful for this most fortunate turn in our affairs and so continue to discharge the duties committed to our care that we may ever merit a continuance of this confidence.

Very respectfully submitted,

CHARLES A. SCHAEFFER.

REPORT OF THE SECRETARY.

REPORT OF THE SECRETARY.

STATE UNIVERSITY OF IOWA, }
SECRETARY'S OFFICE, }
IOWA CITY, Iowa, October 1, 1897. }

To the Board of Regents:

Herewith is respectfully submitted a financial statement of the incomes and expenditures of the University for the biennial period from the close of the school year of 1894-5 to the close of the school year 1896-7.

The statement shows incomes and expenditures by departments as nearly as can be conveniently done.

The incomes and expenditures for general purposes are shown separately from the appropriations made by the general assembly for special purposes.

The balance shown by this statement differs from that shown by the treasurer, for the reason that warrants drawn and unpaid are treated, for the purpose of this statement, as paid, so as to show available funds for future expenditures.

Again, some items, such as tuitions and fees, collected by the secretary and paid to the treasurer, after the time of filing the treasurer's report, will appear in his next annual report, although the items were part of the previous year's work. The secretary's accounts show the exact sum pertaining to each school year, including such sums as are paid after the treasurer's report is closed. But as to the aggregate sums, there is no difference whatever.

EXPENSES BY DEPARTMENTS.

In dividing up the annual expenditures and charging each department with its proper amount of the same, the showing is as nearly correct as it can well be made. Some items seem to be fairly chargeable to a particular department as running expenses, when in fact a part thereof is in the nature of a plant

or permanent fixture, as, for instance, instruments or apparatus which will be in use for years. Laboratory bills are often of this character. Some items in the general account may be in part for supplies. On the whole the division is believed to be correct.

Again, the charge to the medical department account embraces the whole supply of anatomical material and the expenses which were made for both the medical department and the homœopathic medical department. The same demonstrator of anatomy covers the work in both of said departments, although his salary is charged in the regular medical department account.

The anatomical material used in the work for the dental department is embraced in the same account. It would be difficult to estimate the exact amount of expenses for each.

The same remarks apply to the salaries of the professors of the medical department who instruct the medical, homœopathic medical and dental students in chemistry, physiology, anatomy, pathology, histology and bacteriology, without any distinction, and medical and dental students in materia medica in the same way. Again we find all the medical students taking lectures and practical work in the pharmacy department, for which a fee of \$5 was charged each student. This fee is credited to the medical department.

All the departments, however, as time passes and the means can be found, will do less joint work. In the current year the dental department has a special separate class in practical anatomy.

The whole receipts and expenditures being shown and being correct, the variations referred to above are immaterial.

If it is desired to get a closer comparative view of the exact receipts and expenditures in the medical, homœopathic and dental departments we could take account of the dissecting fees paid by the homœopathic and dental students for work done practically in the medical department and credit the medical department with that amount, to-wit:

DISSECTING FEES PAID AS FOLLOWS.

Homœopathic department, 1895-6, dissecting fees.....	\$ 510
Homœopathic department, 1896-7, dissecting fees.....	450
Dental department, 1895-6, dissecting fees	710
Dental department, 1896-7, dissecting fees.....	730
Total	<u>\$ 2,400</u>

This total of \$2,400 should be credited the medical and deducted from the income of the department named on account of the material and services of demonstrators furnished as stated. This, however, will not change the status of any of the said departments very much as to their relative receipts and expenditures.

We will exhibit the exact income and expenditures on account of each professional department for the biennial period, and in the homœopathic and dental deduct the said dissecting fees above set out, and add the same to the medical as stated, to-wit:

PROFESSIONAL DEPARTMENTS.	INCOME.	EXPENDI- TURES.
Law department, 1895-6.....	\$ 11,405 50	\$ 11,069.50
Law department, 1896-7.....	12,132 60	11,464.00
Medical department, 1895-6.....	11,531 73	17,106 74
Medical department, 1896-7.....	11,579 62	17,613 43
Homœopathic department, 1895-6.....	2,759.40	4,298 86
Homœopathic department, 1896-7.....	2 652 87	4,822.53
Dental department, 1895-6.....	17,718 51	11,235.27
Dental department, 1896-7.....	14,427 15	8 719.23
Pharmacy department, 1895-6.....	5,623 87	2,940.00
Pharmacy department, 1896-7.....	4,264 99	3,483.78
Total	\$ 94,096 24	\$ 92 753.34
Income over expenditures, to balance.....	.....	1,342 90
Total .....	...	\$ 94,096.24

Total expenditures on account of the said five departments for said period, as shown above, is \$1,342.90 less than the income of the same.

It is proper to note that in the expenses here charged to each department in the foregoing showing, only salaries and such supplies as are furnished from the income fund are included. The foregoing showing does not include special state appropriations—such as books in the law department, histological, pathological laboratory equipment in the medical department, nor any laboratory equipment anywhere—as such things are in the nature of a plant, and are not fairly included in annual expenditures.

It is perhaps not expected that any department would be self supporting to the extent of paying for catalogues, printing, fuel, gas, water-rent, janitor services, apparatus, books and such special expenses as are not directly incurred by any one department, but made for the benefit of the whole. These

expenses are set out in the annexed report under the head of "Miscellaneous." There is no very correct mode of distributing these expenditures among the departments except on a per capita basis, and that is not quite correct either, as some of the departments are more directly interested in such expenditure than others.

If we adopt the per capita mode of distributing the "miscellaneous account" we will find most departments a long way from self supporting. Under this theory the dental department would be the only self supporting department in the University during the last biennial period. It paid its way in every expenditure and detail and a surplus of \$1,127.16 clear gain into the bargain in the biennial period.

In the years 1895-96 the pharmacy department paid likewise its full share of all expenditures and a surplus over.

FINANCIAL REPORT—MODE OF MAKING.

In order to be uniform, this report will be made—as usual for several years past—by crediting each department with the actual fees, in cash, paid by the students in that department. This will give a clearer comparative view in looking back over the reports for several consecutive years than any other mode.

STATEMENT.

Incomes and disbursements on account of the general income fund, for the school year, June 30, 1895, to June 30, 1896.

INCOMES.

COLLEGIATE DEPARTMENT.

Tuitions and fees.....	\$ 7,860.00	
Chemical laboratory deposits.....	93 17	
Library fines.....	20.20	
Natural history bulletin.....	22.05	
Total		\$ 7,995.42

LAW DEPARTMENT.

Tuitions and fees.....	\$ 10,901.00	
Loan-book account.....	504.50	
Total		11,405.50

MEDICAL DEPARTMENT.

Tuitions and fees	\$ 10,151.00	
Pharmacy deposits ..	77 29	
Chemical laboratory deposits.....	83.44	
Total		\$ 10,311.73

HOMŒOPATHIC MEDICAL DEPARTMENT

Tuitions and fees	\$ 3,251.21	
Chemical laboratory deposits.....	18.19	
Total		3,269.40

DENTAL DEPARTMENT.

Tuitions and fees—regular course	\$ 14,370.50	
Tuitions and fees—spring course	1,260.65	
Clinic fees	2,724.47	
Chemical laboratory deposits.....	72.89	
Total		18,428.51

PHARMACY DEPARTMENT.

Tuitions and fees	\$ 5,406 00	
Laboratory deposits.....	161.90	
Chemical laboratory deposits	55.97	
Total		5,623.87

MISCELLANEOUS COLLECTIONS.

Sundry small items	\$ 104.93	
Back fees collected.....	481.00	
Total		585.93

Grand total	\$ 57,620.36
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STATE APPROPRIATIONS AND FUND INTEREST.

State, for general purposes.....	\$ 53,000.00	
Interest and rents from fund	16,233.99	
Total		69,233.99

Total available general income.....	\$ 126,854.35
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DISBURSEMENTS, 1895-6.

COLLEGIATE DEPARTMENT.

Salaries of professors and assistants	\$ 46,125.00	
Chair of ancient languages	6.05	
Chair of modern languages.....	50.00	
Chair of mathematics	181.62	
Chair of philosophy	400.00	
Chair of political science.....	25.00	
Chair of pedagogy	38.70	
Chair of history.....	35.71	
Natural History Bulletin.....	403.35	
Total		\$ 47,265.43

LAW DEPARTMENT.

Salaries of professors and lecturers.....	\$ 10,565.00	
Loan book account	504.50	
	<hr/>	
Total		\$ 11,069.50

MEDICAL DEPARTMENT.

Salaries of professors and lecturers, etc.....	\$ 13,390.00	
Old hospital maintenance.....	150.00	
Chair of practice	40.00	
Chair of physiology	35.00	
Chair of surgery.....	30.00	
Chair of materia medica	35.00	
Chair of anatomy	42.72	
Clinics, surgical	190.00	
Clinics, gynecological.....	120.00	
Clinics, medical practice.....	80.00	
Clinics, eye and ear	43.20	
Clinics, throat and nose	15.40	
Hospital fees paid.....	591.00	
Dissecting material	2,044.26	
Antitoxin.....	174.53	
Obstetrical manikin.....	135.63	
	<hr/>	
Total		\$ 17,106.74

HOMŒOPATHIC MEDICAL DEPARTMENT.

Salaries of professors and lecturers.....	\$ 3,935.00	
Supplies for the several chairs	50.00	
Museum supplies.....	7.65	
Clinic supplies	50.00	
Hospital fees paid.....	256.21	
	<hr/>	
Total	\$ 4,298.86	

DENTAL DEPARTMENT.

Salaries of professors, lecturers, etc.	\$ 8,502.00	
Clinic supplies	1,640.23	
Laboratory supplies.....	1,038.78	
Chairs, appropriations	54.26	
	<hr/>	
Total		\$ 11,235.27

PHARMACY DEPARTMENT.

Salaries of professors and assistants.....	\$ 2,840.00	
Supplies	100.00	
	<hr/>	
Total		\$ 2,940.00

MISCELLANEOUS.

Salaries of officers, librarians and assistants.....	\$ 10,625.00	
Medical library, books	150.00	
Homœopathic library, books.....	34.23	
Dental library, books and apparatus.....	132.69	

Chemical laboratory supplies.....	\$ 1,069.03	
Interest on building warrants.....	1,094.64	
Cash for work on dental building.....	484.79	
Cash for work on homœopathic building.....	642.92	
Publication military tactics.....	100.00	
Extra work in library.....	138.00	
Pharmacy library, books.....	150 00	
Rent of chapel and rooms	500.00	
Janitors' salaries.....	4,263.73	
Fuel	3,413.77	
Printing and advertising.....	1,641.59	
Commencement expenses.....	1,245.61	
Opera house rent.....	200.00	
Care of grounds.....	250 00	
Gas	2,197 13	
Water rent	592.00	
Catalogues.....	304.76	
Nightwatch.....	468.00	
Band instructor.....	150.00	
Military supplies.....	168.07	
President's traveling expenses.....	282.70	
Professor of pedagogy, traveling expenses.....	186.16	
Postage.....	398.00	
Chapel music	25.00	
Alumni expenses.....	100.00	
Outstanding bills.....	400.00	
Incidentals.....	1,959.03	
Chapel song books	50.00	
Desk for philosophy chair.....	25.00	
Soldiers' monument statuary.....	350.60—	\$ 33,837 45
Total expenditures, 1895-6.....		\$ 127,753.25
Overdrawn in June, 1895.....		467.83
Total expenditures.....		\$ 128 221 08
Total income.....		126,854 35
Expended over income, in June, 1896.....		\$ 1,366.73

GENERAL INCOME FUND.

RECAPITULATION—1895-6.

RECEIPTS.

Collegiate department.....	\$ 7,995 42
Law department.....	11,405.50
Medical department.....	10,311.73
Homœopathic department	3,269.40
Dental department.....	18,428.51

Pharmacy department	\$ 5,623.87
Miscellaneous collections	585.93
State appropriations	53,000.00
Interest and rents from fund	16,233.99
Total	\$ 128,854.35

DISBURSEMENTS.

Collegiate department	\$ 47,265.43
Law department	11,069.50
Medical department	17,106.74
Homœopathic department	4,298.86
Dental department	11,235.27
Pharmacy department	2,940.00
Miscellaneous	33,837.45
Overdrawn in June, 1895	467.83
Total expenditures	\$ 128,221.08
Total receipts	128,854.35
Amount expended over income June, 1896	\$ 1,366.73

STATEMENT.

Incomes and disbursements, on account of the general income fund, for the school year, June 30, 1896, to June 30, 1897.

INCOMES.

COLLEGIATE DEPARTMENT.

Tuitions and fees	\$ 10,420.00
Chemical laboratory deposits	60.87
Library fines	26.90
Total	\$ 10,507.77

LAW DEPARTMENT.

Tuitions and fees	\$ 11,571.00
Loan-book account	561.60
Total	12,132.60

MEDICAL DEPARTMENT.

Tuitions and fees	\$ 10,276.50
Pharmacy deposits	26.16
Chemical laboratory deposits	96.96
Total	10,399.62

HOMŒOPATHIC MEDICAL DEPARTMENT.

Tuitions and fees	\$ 3,060.92
Chemical laboratory deposits	41.95
Total	3,102.87

DENTAL DEPARTMENT.

Tuitions and fees—regular course.....	\$ 12,131.00	
Tuitions and fees—spring course.....	230.00	
Clinic fees	2,740.63	
Chemical laboratory deposits.....	55.52	
Total		\$ 15,157.15

PHARMACY DEPARTMENT.

Tuitions and fees	\$ 4,065.00	
Laboratory deposits.....	152.39	
Chemical laboratory deposits	47.60	
Total		4,264.99

MISCELLANEOUS COLLECTIONS.

Sundry small items	\$ 77.89	
Back fees collected.....	373.50	
Zoology Russell warrant returned.....	75.00	
Pharmacy material sold.....	64.14	
Total		590.53
Total tuitions and fees.....		\$ 56,155.53

STATE APPROPRIATIONS AND FUND INTEREST.

State, for general purposes.....	\$ 65,500.00	
Interest and rents from fund	16,015.98	
Total		81,515.98
Total income fund.....		\$ 137,671.51

DISBURSEMENTS—1896-7.

COLLEGIATE DEPARTMENT.

Salaries of professors and assistants.....	\$ 52,274.96	
Chair of ancient languages.....	25.00	
Chair of German.....	21.78	
Chair of mathematics.....	47.12	
Chair of philosophy.....	748.36	
Chair of political science.....	8.40	
Chair of pedagogy	97.26	
Chair of geology.....	417.35	
Chair of English.....	16.65	
Chair of botany.....	631.45	
Chair of zoology	897.47	
Chair of chemistry (X ray).....	50.00	
Chair of physics	324.51	
Natural history bulletin	317.23	
Engineering Transit	15.00	
Engineering equipment	504.86	
Psychology bulletin.....	179.18	
Chair of morphology.....	249.21	
Total		\$ 56,825.79

LAW DEPARTMENT.

Salaries of professors, lecturers, etc.	\$ 10,280.00	
Type writer—law	25.00	
Loan-book account	559.00	
Total		\$ 11,464.00

MEDICAL DEPARTMENT.

Salaries of professors, lecturers, etc.	\$ 13,280 00	
Old hospital maintenance	130 51	
Chair of practice	31.74	
Chair of obstetrics	40 00	
Chair of physiology	38.35	
Chair of surgery	30 00	
Chair of materia medica	9 25	
Chair of anatomy	30 31	
Chair of pathology	460.00	
Clinics—surgical	202 95	
Clinics—gynecological	178 15	
Clinics—medical practice	38 92	
Clinics—eye and ear	26 65	
Clinics—throat and nose	22.89	
Throat and nose, equipment	100 00	
Hospital fees paid	402.00	
Dissecting material	2,417.16	
Antitoxin	173.95	
Total		17,613.43

HOMŒOPATHIC MEDICAL DEPARTMENT.

Salaries of professors and lecturers	\$ 4,385 00	
Supplies for the several chairs	50.00	
Museum supplies .....	.88	
Clinic supplies ..	50.73	
Hospital fees paid	335 92	
Total		4,822 53

DENTAL DEPARTMENT

Salaries of professors, lecturers, etc.	\$ 6 951.00	
Clinic supplies	1,177 19	
Laboratory supplies	537 04	
Chair appropriations	4 00	
Total		8,719 23

PHARMACY DEPARTMENT.

Salaries of professors and assistants	\$ 3,100 00	
Supplies	381 78	
Total		3,481 78

MISCELLANEOUS.

Salaries of officers, librarians and assistants	\$ 11 075.00	
Medical library, books	161.60	

Homœopathic library, books.....	\$	71.96
Dental library, books and apparatus.....		47.00
General library, appropriation by board.....		1,129.96
Library for books, law department.....		500.00
Chemical laboratory.....		1,546.02
Library summer work.....		148.00
Pharmacy library, books.....		69.65
Rent of chapel and rooms.....		582.50
Janitors' salaries.....		5,155.63
Fuel.....		4,063.45
Printing and advertising.....		1,974.05
Commencement expenses.....		1,729.59
Opera house rent.....		200.00
Care of grounds.....		240 00
Gas.....		1,978 79
Water rent.....		592.00
Catalogues.....		2,045.92
Nightwatch.....		459.00
Band instructor.....		139.25
Military supplies.....		316.59
President's traveling expenses.....		201.51
Professor of pedagogy, traveling expenses.....		247.35
Postage.....		300 09
Chapel music.....		25 00
Alumni expenses.....		100 00
Outstanding bills.....		1,300 00
Incidentals.....		3,130.24
Expenses of Loos to Spirit Lake.....		50.00
<hr/>		
Total.....	\$	39,680 15
<hr/>		
Total expenditures 1896-7.....	\$	142 508.91
Overdrawn in June, 1896.....		1,366 73
<hr/>		
Total expenditures against income fund...	\$	143,875 64
Income for 1896-7.....		137,671 51
<hr/>		
Expended over general income account to June 30, 1897,	\$	6,204.13

ALUMNI BOOK FUND.

This is a special fund contributed by the graduates of 1896, and others.

Subscription to the fund in 1896-7.....	\$	205.10
Paid out for books in same time.....		92.50
<hr/>		
Balance in June, 1897.....	\$	112.60

GENERAL INCOME FUND.

RECAPITULATION—1896-7.

RECEIPTS.

Collegiate department	\$ 10,507.77
Law department	12,132 60
Medical department.....	10,399 62
Homoeopathic department.....	3,102.87
Dental department.....	15,157.15
Pharmacy department	4,264 99
Miscellaneous collections.....	590 53
State appropriation.....	65,500 00
Interest and rents from fund	16,015 98
Total	\$ 137,671.51

DISBURSEMENTS.

Collegiate department.....	\$ 56,825 79
Law department	11,464.00
Medical department.....	17,613.43
Homoeopathic department.....	4,822 53
Dental department.....	8,719.23
Pharmacy department	3,483 78
Miscellaneous.....	39,580.15
Overdrawn—June, 1896.....	1,366 73
Total expenditures.....	\$ 143,875 64
Total receipts.....	137,671.51
Expended over income to June 30, 1897.....	\$ 6,204.13

REPORT OF SPECIAL STATE APPROPRIATIONS

OF THE TWENTY-FIFTH GENERAL ASSEMBLY.

A statement as to the special state appropriations showing how the same have been drawn and expended in accordance with the act making said appropriations.

DENTAL DEPARTMENT, INFIRMARY AND LABORATORY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Amount appropriated and unexpended at date of last report...	\$ 500.00
Amount drawn and expended to December 2, 1895.....	500.00

FOR GENERAL LIBRARY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	1,967.18
Drawn and expended to September 17, 1896.....		1,967.18

FOR LAW LIBRARY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	271.07
Drawn and expended to December 2, 1895.....		271.07

FOR PHYSICAL LABORATORY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	1,243.31
Drawn and expended to November 5, 1896.....		1,243.31

FOR ENGINEERING EQUIPMENT.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	205.64
Drawn and expended to November 5, 1896.....		205.64

FOR PHARMACY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	316.46
Drawn and expended to September 17, 1896.....		316.46

FOR HISTOLOGY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	223.18
Drawn and expended to March 2, 1896.....		223.18

FOR PATHOLOGY AND BACTERIOLOGY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	369.29
Drawn and expended to December 2, 1895.....		369.29

REPAIR AND CONTINGENT FUND.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	5,042.27
Drawn and expended to March 2, 1896.....		5,042.27

FOR BOTANY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	194.76
Drawn and expended to May 18, 1896.....		194.76

FOR ZOOLOGY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	457.53
Drawn and expended to November 5, 1896.....		457.53

FOR GEOLOGY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	418.43
Drawn and expended to November 5, 1896.....		418.43

FOR CHEMISTRY.

TWENTY-FIFTH GENERAL ASSEMBLY.

Balance unexpended at date of last report.....	\$	300.95
Drawn and expended to December 2, 1895.....		300.95

REPORT OF SPECIAL STATE APPROPRIATIONS

MADE BY THE TWENTY-SIXTH GENERAL ASSEMBLY.

A statement as to the special state appropriations showing how the same have been drawn and expended in accordance with the act making the appropriation.

FOR COMPLETION AND EQUIPMENT OF DENTAL BUILDING.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$	2,500.00
Amount expended to October 10, 1897.....		2,500.00

(The whole appropriation is not yet drawn from the state, as it is not all payable until after October 15, 1897.)

FOR COMPLETION AND EQUIPMENT OF THE HOMŒOPATHIC MEDICAL BUILDING.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$	4,000.00
Amount expended to September 21, 1897.....		4,000.00

(Whole appropriation is not yet drawn from the state, as it is not all payable until after October 15, 1897.)

FOR GENERAL LIBRARY.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$	2,500.00
Amount expended to August 27, 1897.....		2,500.00

FOR LAW LIBRARY.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$	1,000.00
Amount drawn, expended to June 30, 1897.....		500.00

Balance available for current year.....	\$	500.00
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FOR PHYSICAL LABORATORY.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$ 1,000.00
Amount expended to September 21, 1897.....	311.89
Balance available for current year.....	\$ 688.11

FOR REPAIRS AND CONTINGENT FUND.

TWENTY-SIXTH GENERAL ASSEMBLY.

Amount appropriated.....	\$ 10,000.00
Amount expended to September 21, 1897.....	6,820.40
Balance available for current year.....	\$ 3,179.60

STATE TAX FOR UNIVERSITY BUILDING.

TWENTY-SIXTH GENERAL ASSEMBLY.

Tax appropriation received from the state to September 21, 1897.....	\$ 28,500.00
Bill for work and material on new hospital up to September 21, 1897, sum of	34,331 72
NOTE—Overdrawn on hospital	\$ 5,831.00
Repairing burned building.....	2,879.90
Estimate on boiler house.....	597.65
Due on tax appropriation September 21, 1897.....	\$ 9,308.55

This sum we are informed will be fully met after October 20, 1897, as the taxes will be paid and forwarded to the treasurer at Des Moines by that time. Other large sums for building purposes will be due in October.

REPORTS
OF THE
Secretary and Treasurer.

TREASURER'S REPORT.

STATE UNIVERSITY OF IOWA,
TREASURER'S OFFICE,
IOWA CITY, Iowa, October 29, 1897. }

To the Honorable Board of Regents of the State University of Iowa:

GENTLEMEN—I herewith submit a statement of income and disbursements for the biennial period commencing June 30, 1895, and ending June 30, 1897.

I also submit herewith a statement of the assets of the State University of Iowa June 30, 1897.

Receipts and disbursements from June 30, 1895, to June 30, 1897.

RECEIPTS.

Balance overdrawn June 30, 1895..		\$ 2,937.42
From June 30, 1895, to June 30, 1896:		
Received appropriations	\$ 85,320.78	
Received tuitions	57,620.36	
Received interest	16,087.28	
Received rents	146.71	
Total		\$ 159,175.13
From June 30, 1896, to June 30, 1897:		
Received appropriations	\$ 94,113.74	
Received tuitions	56,360.63	
Received interest	15,895.98	
Received rents	120.00	
Total		166,490 35

DISBURSEMENTS.

Warrants paid:		
For the year ending June 30, 1896		159,189.85
For the year ending June 30, 1897		163,038 55
Balance on hand June 30, 1897		499.66
Total	\$ 325,665 48	\$ 325,665.48

RECAPITULATION.

Income for two years ending June 30, 1897.....	\$ 325,665.48
Disbursements for two years ending June 30, 1897	322,228.40
	<hr/>
Excess of receipts over disbursements.....	\$ 3,437.08
Balance overdrawn June 30, 1895.....	\$ 2,937.42
Balance on hand June 30, 1897.....	449.66

ASSETS JUNE 30, 1897.

Mortgage notes	\$ 231,865.72
Cash on hand.....	1,254.64
	<hr/>
Total working capital June 30, 1897.....	\$ 233,120 36
Total working capital June 30, 1895.....	231,820 36
	<hr/>
Increase of working capital by sale of real estate.....	\$ 1,300 00

The books of this office show the number of acres of land unsold June 30, 1897, to be 3,063.40.

Respectfully submitted,

LOVELL SWISHER,
Treasurer.

REPORT OF THE SECRETARY

Showing receipts and disbursements of money from October 1, 1895, to October 1, 1897, as required by section 110 of the Code.

RECEIPTS.

1895.			
October	15.	State appropriation, warrants...	\$ 20,000.00
November	9.	Tuitions and fees.....	38,372 79
December	2.	State appropriation, warrants...	19,437.62
December	30.	Tuitions and fees.....	2,442.25
1896.			
February	17.	Tuitions and fees.....	7,939.61
March	2.	State appropriation, warrants...	15,905.80
April	7.	Tuitions and fees.....	4,500.91
May	18.	State appropriation, warrants...	8,933.02
June	1.	State appropriation, warrants...	6,250.00
May	25.	Tuitions and fees.....	2,382.97
June	30.	Tuitions and fees.....	1,981.83
June	29.	Interest on loans and rents.....	15,869.48
June	30.	Interest on loans.....	364 51
July	1.	State appropriation, warrants...	7,000.00
September	17.	State appropriation, warrants...	6,250 00
September	17.	State appropriation, warrants...	6,144.92
October	3.	Tuitions and fees.....	24,502.07
November	18.	Tuitions and fees.....	4,628.06
November	5.	State appropriation, warrants...	11,834.70
December	3.	State appropriation, warrants...	9,375 00
December	31.	Tuitions and fees.....	5,301.75
1897.			
January	2.	State appropriation, warrants...	9,488.17
April	1.	State appropriation, warrants...	16,375.00
April	22.	State appropriation, warrants,tax	10,000.00
April	26.	Tuitions and fees.....	13,758 93
May	5.	Tuitions and fees.....	5,741.60
June	1.	State appropriation, warrants...	11,145.95
June	1.	State appropriation, warrants,tax	6,500.00
June	18.	Tuitions and fees.....	2,428 22
June	30.	Interest on loans and rent.....	16,015.98
August	6.	State appropriation, warrants...	19,000.00
September	1.	State appropriation, warrants...	9,375.00
Total			\$ 339,246.14

DISBURSEMENTS.

1895.			
October	1.	Expended beyond receipts.....	\$ 27,597.79
October	31.	Warrants issued.....	17,338 66
November	26.	Warrants issued.....	12,920.89
December	19.	Warrants issued.....	14,947.80
1896.			
January	30.	Warrants issued.....	12,378.33
February	27.	Warrants issued.....	17,886.14
March	27.	} Warrants issued.....	9,985.08
April	2.		
April	30.	Warrants issued.....	9,001.16
May	28.	Warrants issued.....	26,639 37
June	25.	Warrants issued.....	4,294.61
July	31.	Warrants issued.....	3,719 93
August	17.	Warrants issued.....	1,921.44
September	17.	Warrants issued.....	4,822 91
September	24.	Warrants issued	10,035.74
November	18.	} Warrants issued.....	16,003.18
December	3.		
December	18.	Warrants issued.....	10,637 39
1897.			
January	14.	Warrants issued.....	4,729 73
January	28.	Warrants issued.....	10,693 65
February	25.	Warrants issued.....	18,217.52
March	15-18.	} Warrants issued.....	11,395 94
March	25.		
April	22.	Warrants issued	10,908.16
May	27.	Warrants issued.....	32,853.50
June	22.	Warrants issued.....	6,741.76
July	22.	Warrants issued.....	8,919.65
August	13-19.	Warrants issued.....	3,025.73
August	27.	Warrants issued.....	9,289.16
September	8.	Warrants issued.....	377.06
September	21.	Warrants issued.....	13,692.72
Total			\$ 349,962.17

SUMMARY.

Expended as above shown:	
From October 1, 1895 to October 1, 1897.....	\$ 349,962.17
Received as above shown:	
From October 1, 1895, to October 1, 1897.....	339,246.14
Expended beyond receipts.....	
	\$ 10,716.03

The payment of tuitions and fees for the current year commenced about September 15th, at the opening of the school. These fees and a part of the state endowment fund payable on October 1st will fully cover the above sum expended beyond receipts and leave a balance to meet the October warrants when they are issued by the executive committee.

STATE OF IOWA, }
JOHNSON COUNTY. } ss.

I, William J. Haddock, secretary of the board of regents of the State University of Iowa, being first duly sworn, on oath say, that the foregoing statement of receipts and disbursements during the period set out, is correct and true as I verily believe.

WM. J. HADDOCK.

Subscribed to by Wm. J. Haddock and by him sworn to before me on this 20th day of October, 1897. Witness my hand and seal notarial.

LOVELL SWISHER,

[SEAL.]

Notary Public in and for Johnson County, Iowa.

ELEVENTH BIENNIAL REPORT

OF THE

STATE NORMAL SCHOOL

AT

CEDAR FALLS, IOWA.

School Years 1895-96 and 1897-98.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.

CEDAR FALLS, Iowa, September 1, 1897.

To His Excellency, Francis M. Drake, Governor of Iowa:

SIR—As required by section 9 of chapter 129 of the laws of the Sixteenth General Assembly, as amended by chapter 64 of the laws of the Twenty-second General Assembly, the board of directors of the State Normal school at Cedar Falls, herewith transmit their report for the biennial period ending June 30, 1897.

Respectfully submitted,

HENRY SABIN,

President.

A. GRUNDY,

Secretary.

IOWA STATE NORMAL SCHOOL.

BOARD OF DIRECTORS.

HENRY SABIN, *ex-officio*, Des Moines, Superintendent Public Instruction.

J. W. JARNAGIN , Montezuma.....	} Term expires 1898.
W. W. MONTGOMERY , Red Oak.....	

I. J. McDUFFIE , LE MARS.....	} Term expires 1900.
EDWARD TOWNSEND , Cedar Falls.....	

GEORGE H. MULLIN , Washington.....	} Term expires 1902.
W. A. DORON , Eldora.....	

OFFICERS OF THE BOARD, 1896-97.

HENRY SABIN , <i>ex-officio</i> , Des Moines.....	<i>President</i>
HOMER N. SILLIMAN , Cedar Falls.....	<i>Treasurer</i>
ALFRED GRUNDY , Cedar Falls.....	<i>Secretary</i>

STANDING COMMITTEES, 1896-97.

Executive Committee.—E. Townsend, I. J. McDuffie, G. H. Mullin.
Teachers' Committee.—J. W. Jarnagin, W. W. Montgomery, Henry Sabin.
Finance Committee.—I. J. McDuffie, W. W. Montgomery, W. A. Doron.

CALENDAR FOR 1897-98.

FALL TERM—TWELVE WEEKS.

1897—

September 1, Wednesday—Enrollment day.
September 2, Thursday—Fall term recitations begin.
September 2, Thursday—Training schools open.
November 24, Wednesday Fall term ends.

WINTER TERM—TWELVE WEEKS.

November 26, Friday—Enrollment day.
November 29, Monday—Winter term recitations begun.
December 23, Thursday—Holiday recess begins.

1898—

January 6, Thursday—Winter term recitations resumed.
March 4, Friday—Winter term ends.

SPRING TERM—TWELVE WEEKS.

March 15, Tuesday—Enrollment day.
March 16, Wednesday—Spring term recitations begin.
June 10, Friday—Spring term recitations end.
June 12, Sunday, 4:00 P. M.—Baccalaureate address.
June 13, Monday, 9:30 A. M.—Class day exercises.
June 13, Monday, 3:00 P. M.—Review of Cadet battalion.
June 14, Tuesday, 9:30 A. M.—Literary society anniversary.
June 14, Tuesday, 2:00 P. M.—Alumnal anniversary.
June 15, Wednesday, 9:30 A. M.—Commencement exercises.

SUMMER TERM—SIX WEEKS.

June 20, Monday—Recitations begin.
July 29, Friday—Summer term closes.

SUMMER VACATION.

September 1, Thursday—Fall term begins.

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REPORT OF BOARD OF DIRECTORS.

I. SALARIES PAID 1895-96.

H. H. Seerley.....	\$ 2,300.00
M. W. Bartlett.....	1,600.00
D. S. Wright.....	1,600.00
Albert Loughridge	1,600.00
M. F. Arey	1,600.00
A. C. Page.....	1,600.00
L. W. Parish	1,600.00
G. W. Samson	1,500.00
Anna E. McGovern.....	1,200.00
A. W. Rich	1,100.00
G. W. Walters	1,000 00
Ida L. Schell.....	1,000 00
Sara M. Riggs	900.00
Margaret Baker	900.00
Marion McFarland.....	900.00
Etta Suplee.....	900.00
Nellie B. Wallbank	800.00
Henrietta Thornton.....	800.00
Myra E. Call.....	700.00
C. A. Frederick.....	650.00
Jennie E. Curtis	600 00
Bertha L. Patt.....	600.00
Eva L. Gregg	600.00
Robert Fullerton.....	550 00
Wm. A. Dinwiddie.....	500.00
Julia E. Curtiss.....	200.00
Total	<u>\$ 27,300.00</u>

II. SALARIES PAID 1896-97.

H. H. Seerley.....	\$ 2,500.00
M. W. Bartlett.....	1,600.00
D. S. Wright.....	1,600.00
Albert Loughridge	1,600.00
A. C. Page.....	1,600.00
M. F. Arey	1,600.00
L. W. Parish.....	1,600.00

G. W. Samson.....	\$ 1,600.00
A. W. Rich	1,300.00
G. W. Walters	1,300.00
Anna E. McGovern	1,200.00
C. P. Colgrove	1,200.00
Emma M. Ridley.....	1,100.00
Etta Suplee	1,000.00
Sara M. Riggs	900.00
Margaret Baker	900.00
Marion McFarland.....	900.00
Henrietta Thornton.....	900.00
Nellie B. Wallbank	800.00
Jennie E. Curtis	800.00
Myra E. Call.....	750.00
C. A. Frederick.....	750.00
Eva L. Gregg	750.00
Bertha L. Patt.....	700.00
Robert Fullerton.....	650.00
Wm. A. Dinwiddie.....	500.00
F. A. Fitzgerald	300.00
Mary E. Simmons—4 months.....	400.00
W. H. Bender—6 months.....	720.00
Bertha Morrison—4½ months.....	180.00
Julia E. Curtiss.....	200.00
Edith C. Buck.....	700.00
Laura Faikler	700.00
Total	\$ 31,900.00

III. SALARIES ALLOWED 1897-98.

H. H. Seerley.....	\$ 2,500.00
M. W. Bartlett	1,600.00
D. S. Wright	1,600.00
Albert Loughridge	1,600.00
A. C. Page.....	1,600.00
M. F. Arey	1,600.00
L. W. Parish	1,600.00
G. W. Samson.....	1,600.00
C. P. Colgrove	1,400.00
A. W. Rich	1,300.00
G. W. Walters.....	1,300.00
W. H. Bender	1,300.00
Anna E. McGovern.....	1,200.00
Emma M. Ridley.....	1,100.00
Etta Suplee.....	1,000.00
Sara M. Riggs	900.00
Marion McFarland.....	900.00
Henrietta Thornton.....	900.00
George W. Newton	900.00
Nellie B. Wallbank.....	800.00
Jennie E. Curtis	800.00

Myra E. Call.....	\$ 800.00
Edith C. Buck	800.00
G. A. Fullerton.....	800.00
Eva L. Gregg.....	750.00
Laura Falkler	750.00
Enola Pearl Pierce	750.00
Bertha L. Patt.....	700.00
James A. Mortland.....	600.00
F. A. Fitzgerald	600.00
Bertha Morrison.....	500.00
William A. Dinwiddie	500.00
Julia E. Curtiss.....	200.00
Total	\$ 35,250.00

OTHER EMPLOYES.

SALARIES ALLOWED 1897-98.

Superintendent of buildings and grounds.....	\$ 600.00
Engineer	540.00
Head janitor.....	540.00
Assistant janitor.....	480.00
Assistant janitor and fireman.....	480.00
Secretary—president's office	900.00
Stenographer—president's office	540.00
Total	\$ 4,080.00

SUPPORT OF THE SCHOOL FOR BIENNIAL PERIOD
1896-98.

I. APPROPRIATIONS FOR BIENNIAL PERIOD 1896-98.

Temporary teachers' fund.....	\$ 22,000	
Permanent teachers' fund.....	35,000	
Total		\$ 57,000
Temporary contingent fund.....	\$ 12,000	
Permanent contingent fund.....	6,000	
Total		18,000
Temporary appropriations—		
Boiler house	\$ 3,000	
Repairs	2,000	
Library.....	1,000	
Library furniture.....	500	
Librarian	1,000	
Military	1,000	
Sewerage	5,000	
Biological furniture.....	500	
Total		14,000
Total appropriations.....		\$ 89,000

APPROPRIATIONS.

The Twenty-sixth General Assembly made the following appropriations for the support of the State Normal school at Cedar Falls for the biennial period ending June 30, 1898:

For teachers	\$ 22,000
Contingent expenses	12,000
Library	1,000
Repairs	2,000
Librarian	1,000
Military instruction	1,000
Boiler house and boiler	3,000
Sewer	5,000
Library furniture, etc.	5,000
Biological laboratory	500
Total	\$ 48,000

These appropriations all expire with the present biennial period, and will not be available for the support of the school after June 30, 1898. Under statutes in force at the date when the appropriations above named were made, the sum of \$17,500 had been appropriated annually for the payment of teachers and the sum of \$3,000 annually for contingent expenses.

The total sum under these appropriations available for the support of the Normal school during this biennial period is therefore \$89,000.

These appropriations being insufficient to support the school, the board of directors is compelled to charge and collect from each student a term fee of \$5.

The fees so collected during the first year of this biennial period amount to \$13,075.

For instruction of pupils in the Training school, attending from the Independent District of Cedar Falls and Independent District Number 5, the board has received from these districts the sum of \$1,531.17, making a total of \$14,606.17.

From the same sources the board hopes to obtain during the second year of this biennial period the sum of \$15,000.

Thus it appears that the board has and will have at its command for the support of the school, during the biennial period ending June 30, 1898, the sum of \$118,606.17.

The appropriations allowed for librarian and military instructor are just sufficient to pay the salaries of those officers. The appropriation granted for a sewer has been expended for that purpose, and the school now has as perfect a system of sewerage as could be desired.

Each of the other appropriations has proved insufficient to meet urgent and necessary demands of the school, and the board has therefore been compelled to increase the annual fee paid by students from \$10 to \$15. Students are now paying about thirty per cent of the ordinary expense of maintaining the school.

The board has paid to teachers during the first year of this biennial period the sum of \$31,900. It has contracted to pay to teachers during the second year the sum of \$35,250.

The total sum required for the payment of teachers is, therefore, \$67,150.

The amount appropriated by the state for the payment of teachers for the biennial period is \$57,000, leaving a deficiency of \$10,100, which has or will be paid with a like amount collected from students. Reserving the sum last named for the payment of teachers from the fees collected and to be collected from students, there remains the sum of \$9,606.17 that may be used to meet any deficiencies arising in other funds. A large portion of the sum last named has already been used to pay contingent expenses, and to meet deficiencies in the appropriations for a boiler-house and boilers, for repairs, for books for the library, for library and biological furniture and supplies, and to pay the salary of an assistant librarian. The balance remaining will all be needed for the payment of contingent expenses, to meet deficiencies in other funds.

The board does not mention these matters because it desires to find fault with or to criticise the appropriations made by the Twenty-sixth General Assembly, but because it feels the facts ought to be plainly stated. The board does not feel that it is just to compel students to pay such large sums of money toward the support of the school.

Students who attend the normal school spend from one to four years to complete the respective courses of study, and they must necessarily expend at least \$225 each year in money. Nearly all the students come from families possessed of limited means, or depend upon their own earnings for support while attending school. The people of the state receive the benefit of the increased efficiency of all teachers who attend the normal school, while the teachers, except in a few instances, do not receive sufficient pecuniary compensation to repay them for the time and money expended.

The following table shows the increase in the number of students since the year 1887:

1887, number enrolled.....	435
1888, number enrolled.....	432
1889, number enrolled	541
1890, number enrolled.....	657
1891, number enrolled.....	746
1892, number enrolled.....	706
1893, number enrolled.....	713
1894, number enrolled.....	708
1895, number enrolled.....	888
1896, number enrolled.....	986
1897, number enrolled.....	1,091

This table shows that there has been an increase of 556 in the number of pupils who have attended the school in the ten years last past, and that there has been an increase of 383 since the year 1894. It also shows that the people of the state approve of the work done by the normal school, and explains the increase in the cost of the school.

At the present date all the class or recitation rooms in the three school buildings are occupied. Many of the classes are so large that it is impossible for the teachers to give the personal attention and help to students that is needed to obtain the best results.

Practically the same conditions exist now that existed before the erection of the new school building in 1895.

Within one year from the date of the completion of the new building every foot of space within it was fully occupied, and at this date there are at least 100 more students to be provided for.

If it be asked why the board has not provided sufficient buildings in which to properly instruct and accommodate the increased number of pupils who attend the normal school, the answer is that the legislature has failed to appropriate enough money for the support of the school to enable the board to do so.

In the report made to the governor on September 1, 1893, the board clearly stated the needs of the school, and asked for an appropriation of \$75,000 to erect a new school building. The Twenty-fifth General Assembly appropriated for a new building the sum of \$36,000. The sum appropriated was insufficient to erect a building of sufficient capacity to provide for the increased attendance at the school.

The policy that has heretofore been pursued with regard to the support of the Normal school is unwise and expensive, and is a constant source of disappointment and annoyance to all who are concerned in its management and success.

The report made by President Seerley to the board at the close of the last school year truly states the condition and needs of the school. That report is herewith submitted, and the board asks a careful consideration of all the matters therein discussed.

The board is in accord with President Seerley in all that he says, asks and hopes for.

His experience and conspicuous success justify him in speaking "as one having authority" regarding all matters connected with the school, and entitle his words to great weight.

The board is not unmindful of the present financial condition of the state, and it does not desire to adopt a policy with regard to the Normal school that will not meet with the approval of the general assembly. The increased attendance of the school from year to year, and the increasing demand for teachers who have received professional training, would seem to justify the board in believing that the people approve the policy heretofore pursued and that they desire a larger development of the school. Many influential friends of normal instruction advocate the policy of maintaining schools at other points in the state. The duty of deciding that question rests with the general assembly of Iowa. This board has been charged with the duty of maintaining a normal school at Cedar Falls, and it earnestly desires to make that school in all respects the equal of any other normal school in the United States.

A comprehensive plan for the future maintenance of the Normal school at Cedar Falls ought to be adopted by the next general assembly. That plan ought to indicate, as nearly as possible, the opinion of the general assembly with regard to the future development of the school. The board could then work to carry out the plan adopted with a clear understanding of what is intended for them to do. The things greatly needed at the present time, and without which there cannot be any larger development in the number of students, are more school buildings, more teachers, more books for the library, and better equipments for the laboratories.

Upon the request of President Seerley and many teachers, the board granted the use of the school buildings and library

for a summer school conducted for the special instruction of teachers who, by reason of their employment in the district schools, cannot attend the regular sessions of the Normal school. The summer school was in session five weeks; about one hundred and eighty teachers attending. The board would be pleased to see a summer school organized under authority from the state and in part supported by the state.

The Normal school grounds comprise forty acres of land with a surface somewhat undulating.

During the past summer, the board employed a competent landscape artist to survey and plat the grounds. He has presented to the board a complete plan for making the grounds useful as well as ornamental, and the plan has been approved. It will be necessary, in order to carry out this plan, to change the location of the roads to some extent, to do considerable grading, and to plant a large number of trees. The plan adopted is very simple and inexpensive, and interferes as little as possible with the present arrangement and surface of the ground. Nothing has heretofore been done in the way of improving the grounds upon a well defined plan.

The board asks for the following appropriations which do not take into account any fees to be collected from students:

For payment of teachers, annually, additional.....	\$18,000
For payment of contingent expenses, annually, additional.....	10,000
For repairs.....	1,000
For library, annually	2,500
For cases, fixtures, and furniture for museum, library, and laboratory, annually	1,000
For librarian, annually.....	600
For assistant librarian, annually.....	500
For military instructor, annually.....	750
For new buildings, annually for three years.....	25,000
For improvement of grounds, annually.....	250

The reports of the president, secretary and treasurer of the school are herewith submitted.

The Board of Directors, by their committee,

I. J. McDUFFIE,
GEO. H. MULLIN,
W. A. DORON.

REPORT OF THE PRESIDENT.

IOWA STATE NORMAL SCHOOL.

REPORT OF THE PRESIDENT.

To the Honorable Board of Directors Iowa State Normal School:

GENTLEMEN—I have the honor to present herewith the eleventh biennial report of the Iowa State Normal school for the biennial period ending June 30, 1897.

Cedar Falls, Iowa, July 1, 1897. HOMER H. SEERLEY,
President.

STATISTICAL SUMMARY.

I. ENROLLMENT BY COURSES AND BY CLASSES.

	1895-96.	1896-97.
1. Professional courses—college graduates.....	5	3
2. Specials—advance students	12	11
3. Regular courses:		
Fourth year class.....	27	35
Third year class	89	73
Second year class	157	177
First year class.....	394	419
4. High school graduate courses:		
Third year class	11	23
Second year class.....	75	99
First year class	143	160
5. Special primary course	73	91
6. Summer term students .....	.....	126
7. Training school department:		
Preparatory students.....	93	104
Training school pupils.....	116	123
Total	1,195	1,444

II. ENROLLMENT OF STUDENTS AS TO SEX.

	1895-96.	1896-97.
Men, Normal department.....	288	350
Women, Normal department.....	698	867
Total	986	1,217

III. DEGREES CONFERRED AND CERTIFICATES GRANTED.

	1895-96.	1896-97.
Master of didactics	39	46
Bachelor of didactics	96	91
Primary teachers' certificates.....	38	33
Total	173	170

NOTE.—Class of 1897 has a section that will graduate in December, which will increase the total twenty or more.

IV. COMPARATIVE STATISTICAL REPORT.

ENROLLMENT.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
College graduates.....	1	3	3	3	1	3	2	5	3	
Fourth year class	7	9	16	24	28	38	47	44	27	35
Third year class	32	41	46	56	80	82	92	79	89	73
Second year class	58	76	94	114	122	146	114	149	157	177
First year class	314	371	431	454	378	300	289	390	394	419
Summer term students.....	—	—	—	—	—	—	—	—	—	126
HIGH SCHOOL GRADUATES.										
Third year class	—	—	—	—	—	—	—	—	11	23
Second year class	—	12	19	23	36	47	53	61	75	99
First year class	20	29	49	73	62	99	98	119	143	160
Special primary course.....	—	—	—	—	—	—	—	36	73	91
Special students	—	—	—	—	—	—	12	8	12	11
Total	432	541	657	746	706	713	708	888	986	1217
ENROLLMENT AS TO SEX.										
Men	122	165	217	216	191	214	231	276	288	350
Women	310	376	440	530	515	499	477	612	698	867
Total	432	541	657	746	706	713	708	888	986	1217
GRADUATES										
Masters of didactics	8	8	15	21	26	29	41	38	39	46
Bachelors of didactics.....	23	45	50	57	82	99	105	81	96	91
Total	31	53	65	78	108	128	146	119	135	137
Primary teachers completing course	—	—	—	—	—	—	—	11	38	33
TRAINING SCHOOL ENROLLMENT.										
Preparatory students	—	—	—	—	—	—	92	70	93	104
Training school pupils	—	—	—	—	—	—	72	91	116	123
Total	—	—	—	—	—	—	164	161	209	227

COMMENTS UPON THE STATISTICS.

The comparative view presented herewith, including the past ten years, shows a continuous and regular growth, and gives some indication of the promise for the future. In the

last report (1895) I stated that the close of the next biennial period would show an annual enrollment of 1,000 students. That promise has been more than fulfilled, as the above statistics exhibit; and the summer term students of 1897 were not included in the catalog for 1897, since it was issued before that term opened. There are good reasons for expecting this rate of growth to continue for several years to come, and provision should be made by the state to take care of the work in a way that would insure satisfactory and creditable results. To this end more building will be necessary in the near future and more teachers must be added to the faculty.

It is also worthy of note that two-thirds of the students enrolled are teachers that have had experience in public schools, and are, therefore, in the majority of cases, already self-supporting. This has been carefully investigated the past four years, and the facts were uniformly the same. Another fact, of interest at least, is that the students are nearly all beyond the age of parental control, and are men and women already entered upon a life-work. The men enrolled average as to age nearly 22 years, and are, therefore, older and maturer than the average student at college. With the majority of the students, therefore, the question of intending to teach is not an unsettled problem, as they are old enough to know something of their preferences as to occupation, and are also able to know from experience whether they are likely to succeed in public school work. For more complete details as to residence and classification of the students, information is obtainable from the catalogs of 1896 and 1897.

WHAT IS THE SCHOOL DOING FOR THE STATE?

The enrollment shows that there are a large number of mature students coming annually to this school. Of all these, more than one-sixth complete courses of study and go out permanently, not to return. Another class, one-third of the entire enrollment, leave school for a time for the purpose of teaching until more means for continuing at school are accumulated. Hence this school sends out annually about 500 persons who are to become at once a part of the state's teaching force, and whose work is largely influenced by the instruction granted by the normal school.

In the next place, the leavening influence of the school is felt in many of the county normal institutes, as the majority of

county institutes held in any one year in the state have either some former student or some member of the Normal school faculty engaged as an instructor. There are also a large number of high school teachers at work in the state who were educated at the normal school, and, as the high schools are a large source of the supply of competent elementary teachers, the influence of these normal graduates in this respect cannot be rightly disregarded.

The Normal school students, wherever they are at work, are a large factor in educational meetings—state, district and county. The State Teachers' association enrollment shows that Iowa State Normal school representatives pay nearly one-fourth of all the enrollment fees. This percentage of attendance is equivalent at the great district meetings so that the influences of the school upon the educational interests of the state are not of minor character.

This attendance comes from every part of Iowa. There is no county that is not represented during the year, as the filing of the teachers' certificates shows. While it is true that nearness to a school has something to do with attendance, and that certain parts of the state are better represented than others, yet the students do not return to the counties from which they came to the school, but they go wherever it is easier to secure employment at reasonable wages. Hence some counties that have sent comparatively few students annually to the school have more than their relative proportion of representatives teaching within their borders.

One other point deserving of notice is the large number of students that are taught by each of our teachers. The school is so conducted as to courses of study and as to plans of classification that it secures the largest returns for the money expended, as the number enrolled gives large and economical classes all the time.

THE PROGRESS OF THE BIENNIAL PERIOD.

I. THE PRIMARY TEACHERS' COURSE.

For three years a course of study has been arranged for the training and instruction of primary teachers. This course was planned with the fact in mind that teachers who go into this

special line of work cannot afford, considering the salary obtainable, to spend more than a year in this special preparation. The results of this effort have been very gratifying, as the primary teachers sent out have established the fact of the success of the work and the practical outcome of such a system. In this course the enrollment has increased from thirty-six in 1895 to seventy-three in 1896 and to ninety-one in 1897. Every precaution has been employed to reduce the probabilities of teachers entering this course who are not promising to become good primary teachers, and hence the quantity and the quality of the work done has been excellent. Attention is directed to the course of study as outlined in the catalogue for more specific information.

II. THE NEW CENTRAL BUILDING—ERECTED IN 1895.

The Twenty-fifth General Assembly granted the school an appropriation for a new building in order to relieve the congested condition. Under the act passed, this could not be erected until 1895, and was first occupied in January, 1896. This building has enabled the faculty to take proper care of the growing school and up to the present time has met the necessary demands, but, being now completely occupied, the question of more room for classes and for teachers is already a pressing one.

III. FOUR YEAR SCIENCE COURSE.

Since the last report a new course of study, with more physical and natural sciences, has been added to the curricula to meet the requirements made upon the faculty for science work by those persons who desire to teach these subjects in public high schools. The work in physics, chemistry, physiography, physiology, zoology, botany, geology and biology is now, therefore, equivalent to any school in the country of this order and class.

IV. PHYSIOGRAPHY AND GEOGRAPHY.

A new department of geography has been organized and properly equipped with apparatus and other material. Geography is not studied any more after the common method of the past decade, but as a science of the earth itself, thus saving the time of the students by not duplicating other sciences, as has been the custom for many years, and at the same time employing their thought and time upon scientific study that is particularly practical and useful to public school teachers in their work in the schools.

V. DRAWING.

There has been large development in the department of drawing since the last report. The equipment as to casts, forms, desks, room, apparatus, etc., has been greatly improved, while the progress and improvement in this industrial line has been quite marked. This school is now able to give a course in drawing suitable for public school teachers that is the equivalent of that offered anywhere in schools that give general education.

VI. MUSEUM AND BIOLOGICAL LABORATORY.

A new laboratory for zoology, botany and other natural sciences has been equipped with furniture and apparatus. This is an evidence of progress that is very marked, and the work done is likewise exceedingly helpful to the large number of students who are annually enrolled in these classes. In addition to the laboratory mentioned, a museum of natural history has been begun, which has already acquired a good collection of rocks, minerals, fossils and alcoholic specimens, both land and marine. A beginning has also been made toward collecting the native birds and other fauna of the region, a limited number of excellent specimens having been mounted and placed in the cases. Additions are being made as rapidly as circumstances and money will allow. The purpose is to make such a collection as Iowa teachers can profitably use in studying their own environment of nature so as to prepare them to do intelligent and effective science work in public schools.

VII. CHEMICAL AND PHYSICAL LABORATORIES.

Temporary quarters have been provided in the south building, this biennial period, for physics and chemistry. Certain improvements have been necessary to enable the work to be at all satisfactorily done, but the demand on this department has been so great that even the present improved arrangements cannot long supply the needs. The change in the laws by adding physics to the required subjects for the two-year county certificates for teachers has greatly increased the work required of the department, and has almost overwhelmed the facilities provided so that a call for relief cannot long be postponed.

VIII. THE LIBRARY FURNITURE, ETC.

The erection of the new building provided a chance to give the good-working library, which has been carefully collected,

a better temporary home than it had before 1896. The new steel stacks granted by the last general assembly, and the additional volumes added during the period covered by this report, have done much to increase the efficiency of the library as an adjunct to the school, and has made possible much better work. The reading-room and the library are among the most important departments of the school, and the progress made here during the biennial period is quite commendable and encouraging.

IX. THE GROUPING OF THE FACULTY.

With the increase in the membership of the faculty and the necessary subdivision of work, there arose a chance for duplicating topics of study through the impossibility to certainly know just what lines and subjects belonged to each teacher. To remedy this apparent difficulty, the faculty has been so grouped as to organize the members into subdivisions, such as English, history and civics, mathematics, science, etc., each group having its regular meetings and laying out in detail the work under control, so as to avoid duplication. This system has enabled more work to be done in the same time by thus keeping each teacher in his own specific department.

X. THE SUMMER SESSION OF 1897.

By your permission, a special summer term of five weeks was opened June 21st. The enrollment at this session indicates that there is a real demand for work at this time of the year, when the public schools are closed and the teachers employed therein have a chance to go to a teachers' school. As this term was not announced until late in the spring, and was not assisted by the state, the number in attendance was not as large as it would have been had it been an actual part of the year's work. The following subjects were offered this session: English literature, English grammar, algebra, geometry, methods of teaching, Cæsar, Cicero, Virgil, chemistry, physics, civil government of Iowa, civil government of the United States, political economy, elementary economics, French, English composition and rhetoric, arithmetic, book-keeping, modern history, ancient history, United States history, drawing, botany, zoology, physiology, and vocal music. In all of these subjects classes were regularly organized and maintained.

XI. MUSIC.

Great improvement has been made in the music work of the school during the past biennial period. The work has included vocal music by class work, voice culture by individual work, piano and organ lessons, and violin, mandolin and guitar lessons. In addition, a well organized choral society of over one hundred members has been maintained, glee-clubs for men and also for women have met weekly, and an orchestra of fourteen pieces and a mandolin club of ten members have also been instructed. The school has besides an excellent cadet band of twenty members, whose management and instruction is under the direction of this department. The chorus, as well as the choir and club work, together with the instrumental work, has enabled this department to give several creditable and successful concerts. There is no question that the demand of the public school teacher for instruction in the various kinds of music can now be satisfactorily met by this school.

XII. PHYSICAL CULTURE.

During this period a special department of physical culture was instituted, and the work organized by the adoption of courses of study. This work is principally intended for the young women, as the young men are given military drill instead. The department now offers work in (1) a graded course, the chief purpose of which is to give the sort of instruction wanted by city and country schools, and (2) also in a general course that has as an end more the development of the students that enter the classes than the making of teachers of them, though, in fact, it also gives a suitable course of instruction that will be found practical in any school by the teacher pursuing the training.

XIII. COLLEGE AFFILIATION.

Many of the graduates of the Normal school decide to continue their studies in colleges and universities, so as to better fit themselves for the higher lines of public school work. The faculty has, therefore, completed arrangements with the State university of Iowa, and other standard colleges of the state, so as to enable these graduates to continue their studies without any delay. Full course graduates of the school are granted junior classification in these higher institutions without examination. The record made by our graduates when thus matriculated has proven the wisdom of such recognition. Similar

recognition is also granted by Michigan university, and other higher institutions without the state, to such of our graduates as the faculty recommend for credits upon the course selected. This affiliation has strengthened the Normal school and has made it a part of the educational organization of the country.

XIV. THE TRAINING SCHOOL ORGANIZATION.

There has been much progress in the organization and development of the training department during the past biennial period. Under the provisions permitted by law, the Normal school has a contract with the independent district of Cedar Falls, and also with the rural independent district, No. 5, of Cedar Falls township, for certain children of elementary school grades that constitute the pupils to be taught by the practice teachers. The income from this source thus gained, together with the income that is also secured from tuition of preparatory pupils who are likewise under the charge of this department, has made it possible to conduct the training department without any expense to the state. This part of the school has made rapid strides, and is a great benefit to the Normal school students in their training, and is in no way detrimental to the children that are thus enrolled and taught.

THE FUTURE OF THE SCHOOL.

In this report I desire to give a brief outline of what I think will be eventually essential to complete the equipment and the organization of this Normal school. The time has come when the state must adopt a definite policy for such institution, and when the patch-work plan, heretofore in existence, should give way to a definite and well-digested scheme of development. This school's province is to offer to teachers all the different subjects that are required to be taught in public schools, and the equipment of buildings and apparatus and laboratories should be specifically organized to that end. The work of the faculty, of the board, and of the state in the management of such an institution should aim at something permanent and definite, rather than temporary and experimental. The province of teacher education and training is so well determined now that

there can be no place for guesswork in the plans for the further development and completion of the organization. In the consideration of this problem, after eleven years of study of the subject, I will place before you the necessary things that still remain to be secured and fully accomplished before the development will be ended and the institution be fully completed, so as to fill properly and completely its province in the educational system of the state.

I. BUILDINGS YET TO BE ERECTED.

I. AN ASSEMBLY BUILDING.

At as early a date as possible, it is necessary to have an assembly hall. Every day students are brought together for public announcements and for lectures and other public purposes. Every week, during term time, some public program of literary societies, of the lecture course, or of the musical societies is rendered. This proposed building need not be an expensive one, nor necessarily an ornate one, but it should be able to seat comfortably 2,500 persons, and should be well lighted and ventilated. It should be so constructed as to be on the first floor, with a good basement for other purposes, and should be easy of access for all the school, and also easy of exit in a few minutes should ever necessity require.

II. A CHEMICAL AND PHYSICAL LABORATORY.

At present these laboratories and lecture rooms are in one of the recitation buildings. This condition of affairs exposes the property of the institution to fire from spontaneous combustion of chemicals, and no care can absolutely prevent such accidents. This work of the school should be isolated from the principal buildings for this reason. In addition, these laboratories, on account of gases that are constantly generated in the work being carried on, are offensive to other class rooms, and should, as soon as possible, be separated for this cause. The present facilities and equipment are such that they are not now even sufficient for the present needs of the work in progress, and the temporary arrangements in existence can not much longer serve the best interests of the school. It is, therefore, essential to provide permanent quarters for this most important department at as early a day as is permitted.

III. A RECITATION AND LITERARY SOCIETY BUILDING

The present recitation rooms provided are now all occupied, and there are now a few teachers in the faculty that are not able to be given the control of a room as their work properly requires. There are at present no halls for the eight prosperous literary societies of the school, and such are very essential to a proper interest and management of this practical feature of the English work. There will, therefore, be a need for the erection of a large recitation building that will permanently meet both of these important functions. The school will still grow in attendance, and this enlargement will be economy for the state, as the institution can then very easily double its number of students and largely increase its graduating classes without an equivalent expenditure for management and equipment.

IV. A TRAINING SCHOOL BUILDING.

In the future development of the school, there must soon be separation of the training-school department from the instruction departments. It is difficult to have a combination such as exists now, and not seriously interfere with the order and good conduct of both schools. Then, the time is almost here when the training department will be obliged to be furnished with twice as many rooms as are granted at present. The best permanent arrangement for the future is a separate building, specially planned and constructed for the needs of the work of the training classes and pupils.

V. A GYMNASIUM AND DRILL HALL.

There is present need for a suitable room to use for military tactics and for physical culture work. The physical well-being of the students demands that more direct and scientific attention be given by the board and faculty to the health and the physical exercise of those who enroll. Health and physique are so important to teachers and management of a public school that this school ought to give large attention to the department of physical education. The best teachers' training schools are all working in this direction, and, as soon as possible, this work should be properly developed and a suitable building constructed. This kind of education is more important in a teachers' school than in any other public educational institution, as those who go into public work as elementary teachers have

such a large chance to do a good work for the state in advancing the physical education of the children.

VI. A FIRE PROOF BUILDING FOR LIBRARY AND MUSEUM.

The library is already a large factor in the work of the school, and the museum is also a growing and promising factor. The getting together of such a collection of books and of specimens requires years of work, paid for by the state, and also, in the aggregate, a large amount of public money. The consequence is that these collections possess such inherent value that they need all the protection that a fire-proof building can give, and it is economy to the state and also wise public management to take these precautions in time. It is, therefore, positively certain that such a building should be provided at an early day, and the public interests be thus properly regarded.

LINES OF WORK THAT THE STATE SHOULD DEVELOP AT THE NORMAL SCHOOL.

This kind of an educational institution has a province that is determined by the public need and the public demand. The work done here gives immediate returns and comes nearer to the public, because of its province and character, than other state schools. This fact requires, therefore, that the public need should be carefully studied and that every effort should be put forth to make this school the best representative of the thought and the progress of the age. The public schools should keep abreast of the demand of the time as shown in the characteristics of a progressive age, and the Normal school should emphasize strongly all the best and most modern ideas that prevail in this civilization. The public schools can only reflect this civilization as the teachers in them are alive to the demand, and hence the preparation and training of teachers becomes to the state, therefore, a very important function. The conclusion that is reached by a careful consideration of present day indications is that at the Normal school certain other work ought to be at once inaugurated, if the province of teacher education is to be fully recognized and the public demand met. The following are, therefore, suggested:

I. KINDERGARTEN TRAINING.

This kind of teaching is now a legal fact in Iowa. There is a growing demand for workers of this class, and progressive school districts are undertaking the work of the kindergarten

as a part of the public school system. There is no question any more but the kindergarten has come to stay and that it is a proper part of public school city work. Hence, there is good reason why the State Normal school should add this to her curricula and begin the work of training young women for this important field of instruction. I officially recommend the immediate organization of such a department at the Normal school.

II. MANUAL TRAINING.

The people of Iowa are too far-seeing and too industrious as a whole not to realize that industrial education in the public school is an absolute necessity. There must be enough modification in the present courses of study, particularly in the cities and towns, to give the children skilled hands in the using of tools and in the acquiring of industry. There is no more prominent fact in public education than that a readjustment must come, that all the work of the public schools must not be purely intellectual exercises, and that a just and reasonable recognition must be given to the industrial factor—the training of the hand and body for skillful service. Intellectual education without industrial training connected with it in a systematic way is not all that the state should do for the child. It is evident that this new work must come through the public schools, that all teachers should have general instruction on these particular lines, and that special teachers should also be trained who can accept and develop work beyond the general lines. This field of education properly belongs to the State Normal school, and the earlier that it is inaugurated and developed the better for the general public welfare of the people of the state.

III. MODERN LANGUAGES.

Thus far the Normal school has confined itself in its curricula to the English and the Latin languages. This is well enough as far as it goes, but the day has arrived when teachers, in many cases, need instruction in modern languages, and there is a growing need for attention to these superior subjects of study. It is not desirable nor possible for a conglomerate people, such as we are, to remain indifferent to the utility and the practicality of modern language study, and, as there are many localities in Iowa where the schools would be bettered by having competent teachers in these lines, I recommend the early introduction of such branches at the Normal school.

IV. THE SUMMER TERM OF THE SCHOOL.

There is no good reason why the Normal school should not be open the entire year, holding a session at a time when the majority of public schools are not at work. That this would increase the usefulness of the school to the state hardly needs argument. There is a large demand among teachers for a standard school of this class, to be open during the summer months, when it was the custom, during the past twenty-one years, to have a vacation. The state has the buildings, the appliances and the necessary equipment at present, and it would cost but a small amount additional to keep this school open continuously and do, thereby, one-third more work than is now in progress. The past summer a provisional session was held to determine the public want, and there is no question that 500 to 1,000 actual teachers would take advantage of such an extension of the work now in progress for the coming summer, if the state will authorize such a modification of the management. Such a summer session should be conducted on the same general plan as the present regular sessions, but should be modified in any respect that would better meet the immediate needs of the teachers who come for instruction. There are several classes of students that would certainly be in attendance and should, therefore, be provided for: 1. Regular students who are in courses during the present sessions, and who wish to continue their work. There are a large number of students all the time that would be much benefited by this new term, as their deficiencies, amounting to a term's work, could thus be provided for and their graduation sooner accomplished. 2. High school teachers very frequently want a few months of summer work in English, science, history, Latin, etc., to enable them to do more efficient work in their present positions. There have been many inquiries for this kind of work, and the courses of the Normal school are much better adapted to the needs of this class than the work offered by colleges and universities. In this way such a term would be of large benefit to secondary education in the state. 3. Teachers in the various elementary grades of the public schools are also wanting instruction in the subject matter and in the methods of the work, and would, in many cases, be much benefited by a chance to get a term's instruction at the Normal school without being obliged to surrender their regular contract work. 4. Teachers at work in country schools, and who want to benefit themselves

and improve their scholarship and efficiency as instructors, should also be provided for. These could attend, then, at any time in the year without being obliged to quit their regular work. There is no question but the financial necessities of these teachers would be thus more nearly met than the Normal school is able to do at present.

It is, therefore, my official opinion that this would be a wise policy for the future, and that the appropriations made should take into consideration the question of opening the doors of the school during the summer vacation, and thus grant all possible opportunity to the 25,000 persons of the state who are now, or will soon be, teachers in the public schools.

OTHER NEEDS OF THE NEXT BIENNIAL PERIOD.

I. ADDITIONAL TEACHERS REQUIRED.

The increase of attendance will make demands that the board of directors will be compelled to meet. There must be additional help granted very soon to the departments of political science, physics, history, geography, reading, Latin, English and mathematics. The increase has been continuous for the past few years, and there will be overflow in all these departments that will compel business attention.

II. THE LIBRARY AND APPARATUS.

There is need for additional books for all the departments, for reference work in the library. This period in educational development is very rapid, and the books on civics, history, literature, science, and didactics that are constantly coming from the press are absolutely essential to intelligent and progressive work. The need of maintaining the library as to binding and as to resupply of books that are worn out is not a small one when it is remembered what a large number of persons constantly use the library. The same is true in regard to actual working apparatus in the departments of drawing, science, and methods, and liberal provision must be made to keep up the fair standard now possessed, even if no new development is intended.

CONCLUSION.

It is a great official pleasure to me, in closing this my sixth biennial report as president, to bear testimony to the prosperous harmony that has been so continuous and so helpful during the past two years. Great credit is due to the manliness and

the womanliness of the students for the excellent spirit displayed in all their relations with one another, and also with the faculty, thus enabling the energy and the strength of the instructors all to be put into actual work. Equal commendation is due also every member of the faculty for the self-sacrificing coöperation that has been so continually given the management in the attempt to have the school such as the good people of Iowa would heartily approve and support. The endeavor has also been faithfully made to have this institution not only a credit to the state, but also to have it become the equivalent, if not the superior, of other schools of its order in other states. The moral and social standing of the students, as shown by their character and conduct, as well as by their success as scholars and teachers, has been very gratifying to all in authority and has commended the school and its work to the people at large more prominently and effectively than any other influence or effort could have done. The success of the great majority of the graduates and students already at work in the public schools of the state has been very complimentary to the work in progress and has daily increased the demand upon the school for good, strong, efficient persons, wanted by school boards and school superintendents to accept difficult places, while the same influence has had the effect to largely increase the enrollment of students, and thereby thrust upon the management a rapidly growing and prosperous public work.

Respectfully submitted,

HOMER H. SEERLEY,

President.

REPORTS
OF THE
SECRETARY AND TREASURER.

SECRETARY'S REPORT.

To the Board of Directors of the Iowa State Normal School:

GENTLEMEN—I herewith submit a summary of the orders issued by me on the several funds for the biennial period ending June 30, 1897:

TEACHERS' FUND.

Orders issued during 1895-6.....	\$ 28,800 00
Orders issued during 1896-7.....	33 066 66
Total	\$ 59,866.66

CONTINGENT FUND.

Orders issued during 1895-6.....	\$ 11,808.85
Orders issued during 1896-7.....	17,054 64
Total	\$ 28,863.49

LIBRARY FUND.

Orders issued during 1895-6.....	\$ 1,608.77
Orders issued during 1896-7.....	1,285.03
Total	\$ 2,893.80

MILITARY INSTRUCTION FUND.

Orders issued during 1895-6.....	\$ 500 00
Orders issued during 1896-7.....	500.00
Total	\$ 1,000.00

STUDENTS' CONTINGENT FUND.

Orders issued during 1895-6.....	\$ 13,906 47
Orders issued during 1896-7.....	12,244.21
Total	\$ 26,150.68

WATER FUND.

Orders issued during 1895-6.....	\$ 114.83
Orders issued during 1896-7.....	144.97
Total	\$ 259.80

LIBRARIAN'S SALARY FUND.

Orders issued during 1895-6	\$	500.00
Orders issued during 1896-7		500.00
Total	\$	1,000.00

NEW BUILDING FUND.

Orders issued during 1895-6	\$	25,579.91
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BOILER FUND.

Orders issued during 1896-7	\$	3,187.52
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REPAIR FUND.

Orders issued during 1896-7	\$	783.45
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LABORATORY FUND.

Orders issued during 1896-7	\$	676.00
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SUMMARY OF TOTALS.

Teachers' fund	\$	59,866.66
Contingent fund		28,863.49
Library fund		2,893.81
Military instruction fund		1,000.00
Students' contingent fund		26,150.68
Water fund		259.80
Librarian's salary fund		1,000.00
New building fund		25,579.91
Boiler fund		3,187.52
Repair fund		783.45
Laboratory fund		676.00
Total	\$	150,281.31

Respectfully submitted,

A. GRUNDY,
Secretary.

REPORT OF TREASURER

Of Iowa State Normal School, for biennial period ending June 30, 1897.

1895.

July1. Balance on hand..... \$1,117.09

RECEIVED IN TEACHERS' FUND.

1895.

Sept. 18. State warrant..... \$ 4,375.00

Nov. 21. State warrant..... 2,500.00

Dec. 4. State warrant..... 4,375.00

1896.

March 10. State warrant 2,500.00

March 17. State warrant..... 4,375.00

May 8. Students' contingent fund..... 3,651.00

June 2. Students' contingent fund..... 50.00

June 2. State warrant..... 4,375.00

Sept. 5. State warrant..... 4,375.00

Oct. 24. State warrant..... 3,000.00

Dec. 5. State warrant..... 4,375.00

1897.

Jan. 7. State warrant..... 2,500.00

Jan. 29. Students' contingent fund..... 2,028.36

March 11. State warrant..... 4,375.00

April 22. State warrant..... 5,500.00

June 5. State warrant..... 4,375.00

June 30. Students' contingent fund..... 2,358.30

Total..... \$ 59,087.66

RECEIVED IN BUILDING FUND.

1895.

July 10. State warrant..... \$ 2,000.00

July 22. State warrant..... 1,500.00

Aug. 2. State warrant..... 2,500.00

Aug. 17. State warrant..... 2,500.00

Aug. 31. State warrant..... 1,000.00

Sept. 9. State warrant..... 2,500.00

Oct. 10. State warrant.. 2,000.00

Oct. 17. State warrant..... 3,000.00

Oct. 30. State warrant..... 8,000.00

Nov. 6. State warrant..... 2,300.00

Dec. 4. State warrant..... 325.00

1896.

May 8. Students' contingent fund..... 2,361.97

Total..... \$ 24,986 97

RECEIVED IN BOILER FUND.

1896.		
July	3.	State warrant..... \$ 1,500.00
Oct.	24.	State warrant..... 1,500.00
1897.		
June	30.	Students' contingent fund..... 187.52
Total		\$ 3,187.52

RECEIVED IN CONTINGENT FUND.

1895.		
July	6.	State warrant..... \$ 1,300.00
Sept.	18.	State warrant..... 750.00
Oct.	1.	H. H. Seerley..... 60.80
Dec.	4.	State warrant..... 750.00
Dec.	10.	H. H. Seerley..... 23.30
Dec.	14.	H. H. Seerley..... 32.10
Dec.	18.	Students' contingent fund 4,894.00
1896.		
Jan.	7.	H. H. Seerley..... 50.00
Jan.	20.	H. H. Seerley..... 22.02
Feb.	1.	H. H. Seerley..... 21.69
Feb.	8.	H. H. Seerley..... 18.60
March	18.	State warrant..... 750.00
March	26.	H. H. Seerley..... 9.10
June	2.	State warrant..... 750.00
June	8.	H. H. Seerley..... 48.50
June	25.	Students' contingent fund 2,919.50
Aug.	21.	State warrant..... 3,000.00
Sept.	5.	State warrant..... 750.00
Oct.	13.	Students' contingent fund 2,613.00
Oct.	24.	State warrant..... 3,000.00
Dec.	5.	State warrant..... 750.00
Dec.	12.	A. Grundy..... 7.70
1897.		
March	11.	State warrant..... 750.00
March	11.	H. H. Seerley..... 69.33
April	22.	State warrant..... 3,000.00
June	5.	State warrant..... 750.00
June	30.	Students' contingent fund..... 3,345.36
Total		\$ 30,435.00

RECEIVED IN LIBRARY FUND.

1895.		
Oct.	1.	H. H. Seerley.....\$ 5.22
Oct.	17.	State warrant..... 500.00
Nov.	30.	H. H. Seerley..... 39.68
Dec.	10.	H. H. Seerley..... 6.50
1896.		
Jan.	18.	State warrant..... 1,000.00
Feb.	8.	H. H. Seerley..... 3.75
March	26.	H. H. Seerley..... 15.95

1896.		
June	8.	H. H. Seerley..... \$ 54.31
Oct.	24.	State warrant..... 500.00
Nov.	21.	H. H. Seerley..... 69.48
1897.		
Jan.	9.	H. H. Seerley..... 47.13
March	3.	H. H. Seerley..... 17.31
March	30.	State warrant..... 250.00
June	8.	H. H. Seerley..... 56.85
Total		\$ 2,566.18

RECEIVED IN LITERARY SOCIETY FUND.

1895.		
Nov.	9.	H. H. Seerley (Alpha's)..... \$ 45.05
Dec.	14.	H. H. Seerley (Aristo's) 25.95
1896.		
Feb.	1.	H. H. Seerley (Philo's) 23.10
Feb.	8.	H. H. Seerley (Shakespearian)..... 25.65
Feb.	22.	H. H. Seerley (Neotr. society)..... 30.05
May	19.	H. H. Seerley (Zetelethean society)..... 14.75
May	19.	H. H. Seerley (Orlo society) 21.15
May	19.	H. H. Seerley (Clio society)..... 25.65
1897.		
Jan.	27.	Clisophic society..... 45.00
Total		\$ 256.35

RECEIVED IN LIBRARIAN'S SALARY FUND.

1895.		
Oct.	22.	State warrant..... \$ 500.00
1896.		
Sept.	5.	State warrant..... 250.00
1897.		
March	30.	State warrant..... 250.00
Total		\$ 1,000.00

RECEIVED IN LABORATORY FUND.

1896.		
Sept.	15.	State warrant..... \$ 250.00
Oct.	24.	State warrant..... 250.00
1897.		
June	30.	Students' contingent fund..... 176 00
Total		\$ 676.00

RECEIVED IN LIBRARY FURNITURE FUND.

1896		
Oct.	24.	State warrant..... \$ 250.00

RECEIVED IN MILITARY DRILL FUND.

1895.		
Nov.	6.	State warrant..... \$ 250.00
1896.		
July	27.	State warrant..... 250.00
Nov.	24.	State warrant..... 250.00
1897.		
March	4.	State warrant..... 250 00
Total		\$ 1,000.00

RECEIVED IN REPAIR FUND.

1896.			
July	3.	State warrant.....	\$ 500.00
Oct.	13.	Students' contingent fund.....	1,000.00
Oct.	24.	State warrant.....	500.00
Total			\$ 2,000.00

RECEIVED IN WATER FUND.

1895.			
Oct.	10.	State warrant.....	\$ 100.00
1896.			
June	25.	State warrant.....	100.00
Dec.	5.	State warrant.....	200.00
Total			\$ 400 00

RECEIVED IN STUDENTS' CONTINGENT FUND.

1897.			
June	30.	Full sum collected during biennial period July 1, 1895, to June 30, 1897.....	\$ 28,150.68
Total receipts.....			\$153,113.45

DISBURSEMENTS.

Orders paid on teachers' fund.....	\$59,598.66
Orders paid on building fund.....	25,579.91
Orders paid on boiler fund.....	3,187.52
Orders paid on contingent fund.....	29,203.62
Orders paid on library fund	2,893 80
Orders paid on librarian's salary fund	1,000.00
Orders paid on laboratory fund.....	676.00
Orders paid on military drill fund.....	1,000.00
Orders paid on repair fund.....	783.45
Orders paid on water fund	259.80
Orders paid on students' contingent fund.....	28,150.68
Total disbursements	\$150,331.44
June 30, 1897. Balance on hand.....	2,782.01
Total	\$153,113.45

All of which is respectfully submitted.

H. N. SILLIMAN,
Treasurer.

SEVENTEENTH BIENNIAL REPORT

OF THE

IOWA STATE COLLEGE OF AGRICULTURE

AND MECHANIC ARTS.

MADE TO

The Governor of the State

FOR THE YEARS 1896 AND 1897.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:

F. R. CONAWAY, STATE PRINTER.
1897.

IOWA STATE COLLEGE OF AGRICULTURE }
AND MECHANIC ARTS, }
AMES, Iowa, December 1, 1897.

To His Excellency, Francis M. Drake:

In accordance with the statute defining the duties of the secretary of the board of trustees of the Iowa State College of Agriculture and Mechanic Arts, I have the honor to transmit herewith the seventeenth biennial report of the board.

E. W. STANTON,
Secretary.

REPORT OF THE PRESIDENT.

To the Board of Trustees of the Iowa State College of Agriculture and Mechanic Arts:

GENTLEMEN—I am empowered to present to you for his excellency, Francis M. Drake, governor of Iowa, and for the citizens of Iowa, my biennial report for the incoming general assembly.

OUR BIENNIAL PROGRESS.

In our biennial progress, the students, the faculty and the respective departments of the institution have attained in this period a most encouraging and harmonious condition of growth and work.

Margaret hall for young women has added greatly to the comfort, efficiency and social advantages of not only the young women, but of the entire school. The new quarters for training young women in household economy, in housekeeping and home-making, have markedly added interest and thrift to the work of the college.

The emergency fund for deep well has enabled the authorities to sink a well 2,215 feet deep with the most satisfactory results. The quality of the water by analysis compares most favorably with similar wells in this section of Iowa, and is well adapted for both household and mechanical purposes. The quantity is practically inexhaustible, and comes within twenty feet of the top of the ground. A deep well pump of improved pattern is attached to the well and works successfully. A tower and steel and iron tank of pleasing pattern and useful with capacity of 163,000 gallons, has been erected and design proved in every way adequate to the needs of our water supply. A complete system of water mains has been constructed with the water tower, so that we now have ample protection for the buildings against fire and an adequate amount of water for the living purposes of the college community. This also

insures us sufficiency of water for the sewerage of the college buildings. By more careful inquiry the trustees found that there was some doubt about the disposal of the sewage by sand filter beds, as at first contemplated, so that they have decided to connect the cottage dormitories, the hospital, the veterinary hospital and other buildings with the main college sewer, and by using the plenteous water supply now afforded at slight cost dispose of the sewage by the system of water drainage which is now in vogue throughout the towns and cities.

The appropriation made by the last legislature for the fixing of the farm barns has been judiciously expended. The entire basement of the barns has been torn out and put in anew, giving ample provisions of stalls for the herds of the farm and affording modern improvements for the management of experiments in dairying and animal husbandry. The foundations of the barns were put in mostly anew. The original foundations had been made of poor material, and were caving in. This required new walls of about ten or twelve feet in height for the entire basement.

The greenhouse, of an improved pattern, has been erected in accord with the appropriation granted for said purpose. While it is not nearly as commodious as an institution of this magnitude should have, yet as far as it goes it serves the purpose very well.

A building for forge shop and foundry has been erected. This has been a long felt need in our work in the engineering departments. The building will enable us to do much more and better work in these lines.

GENERAL REPAIRS AND IMPROVEMENTS.

Repairs and improvements have been made in most of the buildings. A number of them have been replastered. New blackboards have been put in main building and Agricultural hall. Fire-closets, elevator, and fire-escapes have been added to Margaret hall. Furniture and fixtures have been also placed in this building, for both the living rooms and the department of domestic economy. A new roof has been put upon North hall, and important repairs and improvements have been added to the creamery building. The rooms of the botany department have been provided with new casing for the growing collection of plants. Ten of the houses set apart for the living of professors have been improved. These all bring

a good rental to the state. The boilers of the larger buildings have been put under a thorough system of repairs and inspection. Main building and engineering hall have received additional repairs. The laboratory facilities of agricultural chemistry have been enlarged to meet the growing demand for the analysis of sugar beets and other important specimens undergoing investigation in this department. The electric light plant has been enlarged to meet the demands of the respective buildings. The building for physics and chemistry has been improved. The farm fences have been decidedly improved in the immediate vicinity of the barns. New railing and screens have been placed in the library. A number of the buildings have been repainted without and varnished within. These and numerous other minor improvements have put our college plant in a much better condition, and aggregate upon the whole a cost of \$20,000 during the last biennial period. An itemized statement of these additions and repairs will be found among the tables of the expenditures attending this report.

NEEDS UNASKED FOR AT PRESENT.

In view of the pressing demands made upon the state for money, there are a number of very important needs of this college which our authorities have deemed best not to ask at present.

Our engineering departments are seriously in need of a larger building for the general purposes of instruction, laboratories, museums and recitation rooms. In electrical engineering we are compelled to scatter work into seven or eight different rooms, most of which are in basements. We are forced to crowd the work of mechanical engineering and civil engineering in a building inadequate for the needs of these departments. A structure suitable for the general purposes of the engineering departments would cost about \$75,000. We are still among the few colleges of this character and rank in the United States without an armory for military tactics and quarters for the physical training of the students. For these purposes we asked the last legislature for \$28,000. This is a modest sum, and the appropriation for such a building should exceed that amount.

We are still in need of machine shops, which should cost at least \$8,000 to \$10,000. Whatever may be the outcome of animal industry in this country, there will be in connection with the experiment station always a demand for a veterinary hospital

barn for dissecting room and treating infectious diseases of domestic animals. This would cost at least \$5,000. There are other important needs of like worth that call for early appropriation of more money for meeting the growing needs of our work.

NEEDS ASKED FOR AT PRESENT—CARPENTER SHOPS.

We have repeatedly made an appeal to the legislature for carpenter shops in connection with the engineering courses of our work. We are compelled to make a still more strenuous appeal of this character than ever. Our present quarters are worn out and dilapidated. They consist of an old frame building that has long spent its usefulness and is occupied only by the force of circumstances. It is a constant menace to the safety of adjoining buildings. It is not worth repairing. It is ill-arranged, and cannot be made comfortable and invitingly habitable in the inclement weather of the fall and spring. We should have every cent of \$8,000 for new shops, and more if at all possible.

ADDITIONS TO THE COLLEGE LIBRARY.

With the demands made upon our finances, we are unable as a college to expend more than about \$2,000 a year in the purchase of new books for the library. We have thus been enabled to collect a library of about 11,000 volumes and 2,000 pamphlets. A large part of the work done by these modern methods of teaching is by original study and research by the student in the library under an efficient instructor and guide. A great institution like that of the Iowa State College of Agriculture and Mechanic Arts should have at least 50,000 volumes at once in its library and make large increase thereto each succeeding year. The college has about one-fifth of that amount at present. An investment of this kind in books will bring the best minds, the largest thought and the noblest forces of the centuries to the present touch and inspiration of the youth in the college. The amount of \$15,000 is asked for making additions to the library. I sincerely hope this sum will be increased by the legislative authorities. There is no one investment, apart from a live teacher, of more far-reaching and permanent good in the education of our Iowa boys and girls than that of putting them in studious touch with a large amount of useful literature.

HORSE BARN AND SILO.

We are seriously in need of a commodious horse barn. Our present building is an old brick stable, much humbler in pretension than that of a small land owner. The demand made upon us for instruction and illustration in this part of animal husbandry requires a barn of modern and suitable dimensions. Our work is seriously hindered on account of the lack of such a building. It is desirable to build, in connection with it, a silo with a capacity of 400 tons in order that we may have proper facilities for feeding in accord with this important method of preserving foods. We ask \$7,500 for these purposes.

THE CHAIR OF PEDAGOGY.

We still find a growing demand for a chair of pedagogy in connection with our college. Quite a number of our graduates desire instruction in the methods of teaching. A large per cent of our students are teachers in the public schools during the long winter vacations, and a number make their way through school in this manner. For a comparatively small expenditure of \$2,000 a year for maintaining a chair in teaching, we could offer a chair in pedagogy that would be most helpful to the teachers and the youth of the state. We have excellent laboratory facilities in the sciences, and thorough instruction in mathematics and English and the modern languages, all of which can be turned to a student in the science and art of teaching without extra expenditure. The establishment of this chair is indorsed by the teaching fraternity of Iowa.

RESIDENCE FOR THE PRESIDENT.

The venerable Dr. Welch in his day erected a residence of his own on a lot adjoining the southeast corner of the college domain. This property is now owned by his heirs. Of a preceding legislature \$6,000 were asked by the heirs for the property. It consists of a two-story brick house and four acres of ground. It contains nine rooms and a commodious hallway, with a cellar under the entire house. It is well constructed and tastefully furnished throughout. The grounds are finely landscaped and beautifully ornamented by shrubs and trees, which have now grown to pleasing proportions. The property can be bought for \$3,000. It is customary for institutions of this character to have a residence for the president. This property is a bargain at the price, and would prove a valuable investment.

SHEEP BARN, FENCING, BUILDING FOR MACHINERY, AND TILING NORTH FARM.

We are much in need of more adequate quarters for the handling of sheep. We have a couple of old buildings, which, with a small expenditure of money, could be combined and made over for quarters for the raising and care of sheep.

We have no suitable quarters for the farm machinery. By rearranging some of the upper part of the main barn, desirable quarters could be made for the storing of the farm machinery. It is also desirable to have in connection with the machinery a room for the instruction of young men in the structure, handling, and mastery of the various implements of machinery having to do with agriculture. Such instruction is now usual in the leading colleges.

Much of the fencing on the farm has not been changed or improved for many years. The fences are worn out and there is such extensive demand for refencing that the ordinary appropriation for these improvements does not catch up with demands of this character.

North farm possesses some of the best soil of the whole college possessions, but much of it lies low down near the creek and is not tillable without thorough drainage. Tiling would add much to its value and the income of the farm. For all of these objects,—sheep barn, fencing, enlarging building for machinery and tiling,—\$3,100 is asked, and divided as follows:

1. Sheep barn.....	\$ 1,000
2. Extension of old barn for additional implement and tool room.....	600
3. Fencing and tiling.....	1,500
Total.....	\$ 3,100

FITTING AND EQUIPMENT FOR AGRICULTURAL MUSEUM.

As an institution we ought to have a collection of plants, seeds, field products, specimens, and objects for observation and illustration in scientific agriculture. These are generally entitled an agricultural museum. Situated as we are in this middle west with vast agricultural interests about us, we should have one of the largest and choicest collections of such a character in the country. To this end it will be necessary to fit up a large room with proper divisions, shelvings, casings, etc., for suitable display and observation of various specimens. We ask the legislature for \$1,000 to fit up such a hall.

MINING ENGINEERING LABORATORY AND EQUIPMENT.

By reason of the hard times we have been economizing in every possible way in connection with the mining engineering department. We have been enabled by the equipment in the other courses to afford excellent advantages by a small expenditure of money for the specific purposes of mining engineering. It would be well to expend \$1,000 for mining engineering laboratory and equipment. This amount, in connection with the equipment of the other engineering departments, would enable us for a nominal sum to furnish additional facilities in this department far beyond the amount of \$1,000.

GENERAL TELEPHONE AND ELECTRIC LIGHT SYSTEM FOR THE PUBLIC GROUNDS.

The college is now included in the corporation of Ames. We are too far from the electric light plant at Ames to have the benefit of the electric lighting of the city system. The city council had voted a small amount of money for the lighting of the college grounds and roads about the campus. With a small additional expenditure of money the college could light the grounds quite successfully from its own plant. Light is a great civilizing and educational force, and we should have the benefit of this lighting system at once.

It is also desired to connect the various buildings of the college by a complete telephone system. This would greatly facilitate much of the business of the college. For both of these objects we ask \$1,000.

FARM DAIRY ROOM.

There is a marked demand throughout the state in regard to more definite instruction in home dairying. As the work of the creamery has become more thoroughly systematized, there is a growing want for knowledge as to the best methods of conducting dairy interests upon the farm itself. This is now one of the pressing needs of the progressive Iowa farmer. We desire to meet it at once. One portion of our present creamery building, by some convenient changes, can be made into a very suitable room for teaching and illustrating farm dairying. For making and fitting up this room there will be required about \$875.

**GOVERNOR AND SUPERINTENDENT OF PUBLIC INSTRUCTION
TO BE MADE EX-OFFICIO MEMBERS OF THE BOARD OF
TRUSTEES.**

As one of the three educational institutions of Iowa, we believe it would be for the advantage of our educational system, as a state, to have the governor and superintendent of public instruction members ex-officio of the board of trustees in this college. The governor, as the head of all the state institutions, is usually an ex-officio member of the board of trustees of the educational institutions in the respective states of the union. The superintendent of public instruction, by the nature of his office, ought to be a member of the board of trustees of each state educational institution of the state.

PURCHASE OF LAND.

There is some land joining the college farm that would add greatly to the service and efficiency of the farm department if owned by the college. Part of it projects into the college farm, making it quite irregular in shape, very inconvenient, and expensive in regard to fencing. The purchase of not to exceed eighty acres, adjoining the present college farm, would not incur any additional expenditure upon the part of the state. This land can be purchased from the endowment fund in accord with the provisions of the national grant. It is most urgently requested that the trustees be empowered to make said purchase.

CHANGE OF COLLEGE FISCAL YEAR.

The educational machinery of the colleges in the United States is set for midsummer and not for November. The government at Washington requires the reports to cover the period ending the 30th of June of each year. The fiscal year of most of the state institutions is now fixed to begin on July 1st. With our present arrangement it is almost impossible to meet the requirements of the national government in regard to reports June 30th. We therefore ask that the fiscal year of the college be fixed to begin July 1st of each year.

SUMMARY.

1. Carpenter shops.....	\$ 8,000
2. Purchase of books for library.....	15,000
3. Horse barn and silo.....	7,500
4. Chair of pedagogy.....	4,000
Residence for president.....	3,000

6. Farm improvements:	
1. Sheep barn.....	1,000
2. Extension of main barn for implement, tool and instruction room.....	600
3. Fencing and tiling.....	1,500
7. Agricultural hall museum, fittings and equipment	1,000
8. Mining engineering laboratory and equipment.....	1,000
9. General telephone and public grounds electric light system.....	1,000
10. Farm dairy room.....	875
<hr/>	
Total.....	\$44,475

11. We ask that the governor and superintendent of public instruction be added to the board of trustees, as members *ex-officio*.

12. We ask that the board of trustees be authorized to purchase not to exceed eighty acres of land adjoining the present college farm, and to pay therefor from endowment fund in accordance with the provisions of the original national grant.

13. We ask that the college fiscal year be definitely fixed to begin on July 1st.

ADDITIONS TO THE COURSE OF STUDY.

In recent years the land-grant colleges of the United States have been making important changes as to their courses of study. As an institution we have been quite fortunate in keeping abreast with the times in the topics taught and the arrangement made in the respective courses. We have found it necessary to add to our courses of study the addition of an entire school year. The college has prefixed to all courses an additional academic year, of which the requirements for admission are equivalent to the present requirements of the first term freshman year of the several courses, with such modifications as are necessary in the courses of agriculture and veterinary science. Admission to the courses by certificate from high school is restricted to graduates of high schools, approved by the college section of the State Teachers' association, except that all candidates to the freshman class are required to take entrance examination in mathematics. In consequence of this change we have made important additions to the studies of our freshman and sophomore years. In the junior and senior years we had a generous system of electives strictly guarded which rendered those years satisfactory without much modification.

CHANGE OF COLLEGE YEAR

The universal experience of the colleges of America is against the fall commencement exercises. In the beginning

history of these colleges quite a number had their commencement in the fall, owing to manual training required of the students in the field, but that system has long gone out of practice. We are the only college in America whose commencement is left for the fall. This simple fact is more eloquent and convincing for a change than any argument that could be produced. All the colleges have found it impracticable to finish up the college year at such a time. Graduates who wish to take teaching work as their profession or engage in any of the industries find suitable openings in midsummer rather than midfall. Those who wish to take post-graduate work in other institutions should begin early in September, and must in October. In a word, November is a poor time for the graduates of the college to secure openings for their life undertakings; so we have decided to leave our terms and vacations just as they are and change the date of commencement to June and the beginning of the college year to July, instead of February as hitherto. In 1898 we will have two openings, one in February, according to the old plan, and one in July, according to the new plan.

PLAN OF CHANGING COLLEGE YEAR.

The plan of changing college year is as follows:

That the present senior class pursue the course as now in force and graduate in November, 1898;

That for the sophomore and junior classes each student shall elect his course, to terminate in November, according to the present course of study, or in the June following, according to the new course of study;

That students applying for admission to the college in March shall, if qualified, be classified in the senior academic term and shall graduate in 1902;

That students applying for admission to the college in July shall, if qualified, be classified as freshmen and shall graduate in 1902;

That students applying for admission to the college in July shall, if not qualified to enter the freshman class, be admitted, if qualified, to the junior term of the academic year.

THE WORK OF THE DEPARTMENTS.

I submit herewith a biennial report of the respective departments of the college. These give knowledge of the amount and character of the work done during the biennial period. We

have a board of direction under the superintendence of the director of the experiment station and the president of the college, that outlines work of original investigation a year ahead. This board of direction is composed of the professors in agriculture, animal husbandry, dairying, botany, entomology, horticulture, agricultural chemistry, and veterinary science. A preview of the field to be gone over is made through free discussion with the beginning of each year. This contributes much to the consistency and value of original investigation in these various departments. The work of the other departments has made for the most part excellent progress both with the student and the instructors.

CONCLUSION.

It is most gratifying to report substantial and marked improvement in the material facilities and educational factors of the college during another biennial period. The present outlook bespeaks still larger and better things to come in the essential force of our work. We have graduated twenty-five classes. Our graduates number 898. These are the true indices of the success of the work. In positions of trust and power throughout the country, they are reflecting credit upon themselves and honor upon the college. Industrial and scientific education is opening into a vast field of usefulness and strength. The vision of the father of this character of colleges, Hon. Justin S. Morrill, is becoming a reality. He says: "That the act of 1862 was intended to give those whose lives were to be devoted to agriculture, or mechanic arts, or to the other industries embracing much of the largest part of our population, some chance to obtain a liberal and practical education." This "largest part of our population" is more than ever awaking to the privilege and opportunity of this and kindred colleges throughout the land. I hereby make sincere acknowledgment to the kindly hand and the thoughtful deed of each and of all who have contributed to the success of the seventeenth biennial period of the Iowa State College of Agriculture and Mechanic Arts.

Most respectfully submitted,

W. M. BEARDSHEAR,

President.

FINANCIAL REPORTS.

REPORT OF SECRETARY.

STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS, }
November 10, 1897.

To the Honorable Board of Trustees:

GENTLEMEN—The college endowment fund is the same in amount as at the beginning of the biennial period, viz.: \$681,033.52. Of this amount \$591,354.01 is to be credited to the original congressional land grant, and \$89,679.51 to the transfers and investments of interest fund made in the earlier days of the college when the income of the institution exceeded its expenditures. The endowment fund is invested in land and farm mortgages and is managed by the board of trustees through the following agencies:

1. Financial agency, under charge of Agent Helsell.
2. Land and loan agency, under charge of Agent Knapp.

1. FINANCIAL AGENCY.

At the beginning of the biennial period there was an uninvested balance in the financial agency of \$ 17,516.45

The agency has been debited with the proceeds of Des Moines Security Loan and Trust company debentures amounting to..... 5,500.00

Mortgage loans paid during the two years 78,826.86

Principal on leases paid during the two years..... 27,476.58

—————

Making a total to be invested of. \$ 129,319.89

The agent has loaned during the two years..... 100,200.00

—————

Leaving an uninvested balance of \$ 29,119.89

Of which there is:

In the hands of the financial agent \$ 5,300.00

In the hands of the state treasurer 23,819.89

—————

Total \$ 29,119.89

Extensions have been granted during the biennial period amounting to 14,700.00

The total amount at present charged to the agency is \$540,943.52, which is accounted for as follows:

Farm mortgages bearing 8 per cent interest..... \$ 2,450.00

Farm mortgages bearing 7 per cent interest..... 504,073.63

Farm mortgages bearing 6 per cent interest 5,300.00

—————

Total invested in mortgages..... \$ 511,823.63

Cash balance awaiting investment..... 29,119.89

—————

Total..... \$ 540,943.52

Adding to the above the following mortgages foreclosed:

Loan No. 168, security 120 acres in Ringgold county..... \$ 1,200.00

Loan No. 229, security 40 acres in Polk county 2,418.55

—————

Total \$ 3,618.55

—————

Gives the entire amount realized to date from sales of land belonging to the original congressional land grant, viz \$ 544,562.97

The Ringgold county tract is rented at an annual rental of \$126; the Polk county tract on short time lease at \$85.

An account is kept in my office with the financial agent. His drafts upon the state treasurer are countersigned by me and the amount of the draft charged on my books, against the agent. Under the statutes of the state the papers connected with all loans are forwarded to me and entered of record in the books of my office. Upon the receipt of the papers of any loan, I credit the agent with the amount thereof. These papers are then forwarded to the state treasurer, this officer being debited with the same upon my books. Payments of principal and interest are made to him. Upon the payment of the principal of any loan, the release of mortgage is executed by the chairman of the board of trustees and myself. The state treasurer is credited on his loan account with the amount of the loan and debited with the cash thus received. Any addition to the funds of the agency is made known to me by methods hereafter explained. I am thus able from the original papers to keep an account with the officers handling the funds of the agency. At the end of each month a trial balance is taken which shows the investments of the fund and the cash balance uninvested. Comparisons are made at the same time with the accounts of the state treasurer. Frequent comparisons are also made with the books of the financial agent. Upon the basis of the agreement of the books thus compared, I am able to determine the correctness of the accounts of the officers of this agency handling the endowment fund, and to certify that the statement contained in this report is an accurate exhibit of the present condition of this fund.

II. LAND AND LOAN AGENCY.

That portion of the original endowment fund still invested in land and the portion arising from the transfer and investment of interest fund are under the management of Agent Knapp. At the beginning of the biennial period there was charged to the land department of the agency the following:

Of the congressional grant, 18,961.94 acres, appraised at.. .. .	\$ 74,268.32
Of land purchased with accumulated interest, 1,258.17 acres, appraised at....	5,999.51
Total, 20,118.11 acres, appraised at.....	\$ 80,266.63
During the two years the following land has been patented:	
Of the congressional grant, 8,128.94 acres, appraised at.....	27,476.58
Leaving as the amount now charged to the agency—	
Of the congressional grant, 10,736 acres, appraised at.....	46,791.94
Of the land purchased with accumulated interest, 1,258.17 acres, appraised at	5,999.51
Total, 11,999.17 acres, appraised at.....	\$ 52,791.45

All of the above land is under lease at an annual rental of 8 per cent on the appraised value. These leases have been renewed from time to time, the whole history of which is set forth on page 117 of the fifteenth biennial report of the college.

The renewals of leases during the biennial period amount to \$8,582.20.

The proceeds of the sales, aggregating, as shown above, \$27,476.58, have been remitted to the state treasurer and added to the funds of the financial agency. When a sale is made the certificate of purchase is signed by me and a duplicate of the receipt of the state treasurer is filed in my office. I then debit the state treasurer with the amount and credit the land agent.

It has been stated hitherto that the portion of the endowment fund derived from accumulated interest amounts to \$89,679.51. Of this amount the sum of \$5,999.51, as already shown, is in the shape of land and has been accounted for. The balance, \$83,680, constitutes the amount charged to the loan department of Mr. Knapp's agency.

At the beginning of the biennial period there was an uninvested balance in his hands of...	\$ 1,330.00
During the two years loans have been paid amounting to.....	25,650.00
Making a total to be loaned of	\$ 26,980.00
Of this amount Agent Knapp has loaned.....	24,450.00
Leaving a balance uninvested of..	\$ 2,530.00
Total amount at present invested in farm mortgages is.....	81,150.00
Total fund.....	\$ 83,680.00

Summarizing the foregoing, the accumulated interest portion of college endowment is thus accounted for:

In land under lease, 8 per cent.....	\$ 5,999.51
In farm mortgages, 7 per cent..	81,150.00
Awaiting investment.	2,530.00
Total....	\$ 89,679.51
Adding to this the portion of the original endowment still invested in land..	48,791.94
We have the total charged to the agency....	\$138,471.45

My office bears to this agency a relation similar to that which it bears to the financial agency. An account is kept with each tract of land and each loan in such way as to show at all times its condition. Comparison of my books is made with those of the agent, and the accuracy of his accounts is thus thoroughly tested.

It is the purpose of the law that the secretary of the board shall stand in the relation of an accounting officer to the different officers entrusted with the management of college funds. It is believed that the system now in force provides fully for the accomplishment of this end. It greatly aids the trustees in making settlement with these officers, and it enables my office to promptly furnish to the board detailed information regarding the condition of any and all college funds.

The following is the present condition of the fund taken as a whole:

Endowment fund yielding income—	
Land under lease (including Ringgold county tract obtained under foreclosure at a cost to the endowment fund of \$1,200), 12,109.17 acres, appraised at.	\$ 53,991.45
Farm mortgages bearing 8 per cent interest	2,450.00
Farm mortgages bearing 7 per cent interest..	585,223.63
Farm mortgages bearing 6 per cent interest.....	5,300.00
Polk county tract of forty acres leased at \$85.....	2,418.55
Total yielding income.....	\$ 649,383.63
Not yielding income—	
Cash balance:	
Original endowment fund.....	\$ 29,119.29
Accumulated interest.....	2,530.00
Total.....	31,649.89
Total endowment.....	\$ 681,033.52

The large uninvested balance on hand is due to the fact that loans bearing 7 per cent interest can not be readily made.

INCOME OF THE COLLEGE AND COST OF MAINTENANCE.

The following are the sources of the college income:

- 1. National fund for maintaining the college.
- 2. The national fund for maintaining the experiment station.
- 3. The appropriations by the state for buildings and repairs

4. Rental of rooms, diploma fees, and rental on a tract of donated land.
Considering these in their order we have:

I. A NATIONAL FUND FOR MAINTAINING THE COLLEGE.

INCOME.

For fiscal year 1896—

From endowment fund..... \$ 46,506 05
From Morrill support fund..... 22,000 00

Total..... \$ 68,506.05

For fiscal year 1897—

From endowment fund..... \$ 47,729 75
From Morrill support fund.... 15,000 00

Total..... 62,729.75

Total..... \$ 131,225.80

EXPENDITURES.

For fiscal year 1896—

For salaries, charged salary account..... \$ 34,126.11
For apparatus, assistants and current expenses of departments 32,663.18

Total..... \$ 66,789.29

For fiscal year 1897—

For salaries, charged salary account..... \$ 35,591.81
For apparatus, assistants and current expenses of departments 30,487.90

Total.. 66,079.71

Total for the biennial period..... \$ 132,879.00

The foregoing statement shows that the expenditures on account of these national support funds during the biennial period exceeded the amount received therefrom by the college treasurer in the sum of \$1,553.20, thus reducing the balance in his hands to the credit of these funds, from \$14,470.70 to \$12,917.50. It should, however, be noted in this connection that \$8,000 of the Morrill fund of 1897 has not been drawn from the state treasurer and does not therefore appear in this account.

II. NATIONAL EXPERIMENT STATION FUND.

INCOME.

From national appropriation for 1896..... \$ 15,000.00
From national appropriation for 1897..... 15,000.00

Total... .. \$ 30,000.00

EXPENDITURES.

For 1896, over and above income from sales..... \$ 14,088.25
For 1897, over and above income from sales..... 16,203.89

Total..... \$ 30,292.14

This shows an excess of expenditures over income of \$292.14, thus reducing the cash balance of \$313.95 to the credit of the station at the beginning of the biennial period to the present balance of \$21.81.

III. STATE BUILDING, IMPROVEMENT AND REPAIR FUNDS.

RECEIPTS FROM APPROPRIATIONS.

Drawn from the state treasury during 1896..... \$ 36,912.63
Drawn from the state treasury during 1897..... 37,232.10

Total..... \$ 74,144.73

EXPENDED.

During 1896..... \$ 36,435.84
During 1897..... 37,692.89

Total..... \$ 74,128.73

Balance in hands of college treasurer 16.01

Total.. .. \$ 74,144.73

IV. MISCELLANEOUS ITEMS.

RECEIPTS.

For fiscal year 1896—		
Rent on donated land.....	\$	3 20
Rent of rooms to students and instructors.		1,966.55
Diploma fees		327.00
Total.....	\$	2,296.75
For fiscal year 1897—		
Rent on donated land.		3.20
Rent of rooms to students and instructors.....		2,008.53
Diploma fees.....		275.00
Total.....		2,286.73
Total		4,583.48

EXPENDITURES.

For fiscal year 1896—		
In repairing and furnishing dormitory buildings and rooms... \$	2,334.39	
On diploma account	80.50	
Total.....	\$	2,414.89
For fiscal year 1897—		
In repairing and furnishing dormitory buildings and rooms... \$	1,688.46	
On diploma account.....	313 30	
Total.....		1,999.76
Total.....	\$	4,414 65

The foregoing statement shows that the receipts on account of these miscellaneous items exceeded the expenditures by \$168.83, thus increasing the balances to their credit from \$1,116.08 to \$1,284.91.

In making up my account with the college treasurer, he is debited with the income as set forth in the foregoing statements, and is credited with the sums expended as shown in these same exhibits. There also appears on each side of his account an amount equal to the aggregate of the sales of the several departments, since the proceeds of such sales are paid into the treasury and are afterwards expended by the respective departments to meet current expenses.

The principal of accumulated interest loans, when collected, is paid to the treasurer and charged to his account, while he is credited with the amount of such funds drawn out for the purpose of making loans. These items, together with the cash balance at the beginning of the year, make up the totals with which he is debited and credited.

Putting this data in shape for ready reference and comparison, my account with the college treasurer shows the following receipts and expenditures for the two years of the biennial period:

ACCOUNT WITH THE COLLEGE TREASURER.

RECEIPTS FOR 1896.

Cash balance on hand at the beginning of the year	\$	17,318.73
Income available for current expenses, experimentation and improvements:		
National fund for maintaining the college.....	\$	68,596.05
National fund for maintaining the experiment station.....		15,000.00
State appropriations for buildings, repairs, improvements and current expenses.....		36,912 63
Miscellaneous items, as explained.....		2,296.75
Total.....		122,805.43

Receipts from sales of departments afterwards used by these departments:

Experiment station.....	\$ 3,308.03	
Creamery	18,795.82	
Other departments	12,164.08	
Total		34,267.93
Accumulated interest fund paid in to be reinvested		15,750.00
Total charged against the treasurer for 1896.....		\$ 190,142.09

DISBURSEMENTS FOR 1896.

For maintenance of college in its departments of instruction.....	\$ 66,799.29	
For maintenance of experiment station.....	14,088.25	\$ 80,887.54
Total		
From state funds for the purposes specified in the appropriations.....		36,435.84
From student funds for repairing dormitory buildings and rooms, and purchasing diplomas.....		2,414.39
Cost of maintenance, experimentation and improvements for the year.	\$ 112,788.27	
Department sales expended.....	34,267.93	
Accumulated interest fund reinvested.....	17,100.00	
Total disbursements.....		\$ 171,106.30
Cash balance on hand.....		19,035.89
Total		\$ 190,142.09

RECEIPTS FOR 1897.

Cash balance on hand at the beginning of the year.....	\$ 19,035.89	
Income available for current expenses, experimentation and improvements:		
National fund for maintenance of college.....	\$ 62,729.75	
National fund for maintenance of experiment station.....	15,000.00	
State appropriations for buildings, repairs, improvements and current expenses.....	87,232.10	
Miscellaneous items as explained.....	2,286.73	
Total.....		117,248.58
Receipts from sales of departments afterwards used by these departments:		
Experiment station.....	\$ 3,203.36	
Creamery	20,486.42	
Other departments.....	13,520.98	
Total		37,210.76
Principal of loans paid in to be reinvested....		9,900.00
Total charged against the treasurer for 1897.....		\$ 183,395.23

DISBURSEMENTS FOR 1897.

For maintenance of college in its departments of instruction	\$ 66,079.71	
For maintenance of experiment station.....	16,203.89	
Total		82,283.60
From state funds for the purposes specified in the appropriations.		37,692.88
From student funds for repairing dormitory buildings, rooms and purchasing diplomas.....		1,999.76
Cost of maintenance, experimentation and improvements for the year.....	121,978.24	
Department sales expended.....	37,210.76	
Accumulated interest fund reinvested	7,350.00	
Total disbursements		\$ 166,537.00
Cash balance on hand.....		16,858.23
Total		\$ 183,395.23

The methods of testing the accounts with the college treasurer and other officials handling the college income are such as would seem to insure accuracy. The state treasurer and Agent Knapp make monthly reports to my

office of interest and rental collected. The account kept by me with each loan and lease would show any failure on their part to account for interest or rental due. The amounts collected are paid to the college treasurer monthly and, as in the case of all other moneys received by him, he issues therefor receipts in duplicate, the original of which is countersigned by me and the duplicate filed in my office. In the matter of the annual appropriations of the national government, not only are the accounts chargeable to the college treasurer certified to by the duplicate receipts, but these appropriations are definite in amount and payable at particular dates. State appropriations are drawn only on requisitions signed by the chairman and secretary of the board of trustees. Itemized statements of room rent and fees collected are filed in my office by the heads of the different departments. These, with the inventories filed and the treasurer's vouchers, render it possible not only to trace each article from its purchase to its sale or use, but also, by comparisons easily made, to test the accuracy of the account kept with the treasurer. By the ways thus briefly reviewed the items charged against this officer are determined.

The treasurer is credited with all bills paid by him. These must, prior to payment, be approved by the board of audit, which consists of the president of the college and the secretary of the board of trustees. It is a condition, precedent to such approval, that the correctness of the bill shall be certified to by the head of the department purchasing the supplies or employing the labor; nor will the bill be allowed if in excess of the appropriation made to such department. Bills relating to the erection, repair and improvement of buildings and the purchase of furniture are, before audit, approved by the chairman of the building committee of the board, and no bill in favor of a salaried officer of the institution is allowed until it has been passed upon by the board in regular session. All bills must be fully itemized, constitute a just claim against the institution, and be legally payable from the fund against which they are audited.

At the time of audit each bill is charged upon my books to the proper state or department appropriation; it also appears as a credit to the treasurer. My books are compared monthly with the treasurer's accounts; and the two brought to agree. At the close of each fiscal year a settlement sheet with the treasurer is prepared from my books, which shows on the one hand the items of cash with which he is debited, and on the other the amount of the bills paid by him on each of the state appropriations and department accounts. The committee of the board of trustees appointed each year to make settlement with the treasurer checks these items of cash received with the duplicate receipts filed in my office, and, reviewing the additions, thus determines the amount with which he should be debited. This committee also compares the vouchers of the treasurer with the items which make up the expenditures under the different accounts, and then adding the columns of his ledger, compares the result with the amounts with which I have credited him on the balance sheet. These agreeing, the amounts are then added and the total with which the treasurer should be credited ascertained. This settlement is carried forward by the committee to the time of the approval of the treasurer's annual bond of \$50,000 by the secretary of state. The cash balance as determined at that time is produced by the treasurer and counted by the committee.

Careful attention is called to the accounting machinery thus described. It represents the development of many years, has been adjusted to the peculiar demands of the institution in its relations to the state and national govern-

ments, and would appear to fully protect and conserve the public interests. It is confidently submitted as a system under which the board of trustees, a committee of the legislature, or any citizen of the state can readily gain full information regarding the financial management of the institution.

As shown in the account with the treasurer, there was in his hands at the close of the fiscal year, of the college funds proper, a balance of \$16,858.23. This amount is to the credit of the following funds:

College support funds—

Interest fund.....	\$ 3,927 62
Morrill fund	8,989 88
Total.....	\$ 12,917.50
Experiment station fund.	21.81
State appropriations.....	16 01
Donation fund.....	9 00
Right of way damages.....	88.00
Accumulated interest awaiting investment..	2,520.00
Student funds—	
Room rent.....	\$ 370 98
Diploma fund.....	901 83
Total.....	1,275 31
Total.....	\$ 16,858 23

The annual appropriation of the national government, known as the Morrill fund, is payable shortly after the beginning of the government fiscal year. The balance to the credit of the support funds is generally quite small toward the close of the government year, and care is necessary in making the department appropriations to provide for their expenditure at such times as will not embarrass the college financially. I estimate the support funds for the coming year available for department appropriations at \$60,000. There is attached to this report the usual exhibits showing the income of the educational support funds for each of the two years and their expenditure for departmental purposes. In another place in the biennial report, under the head of "State Appropriations," all of the funds derived from the state will be treated in detail. A presentation of the financial condition of the experiment station will be included in the abstract of the proceedings of the board of trustees. Respectfully submitted,

E. W. STANTON,
Secretary.

EXHIBIT "A."

The following shows the ordinary income of the college support funds for the fiscal year ending November 11, 1896, together with the expenditures on account of the various departments:

RECEIPTS.

Cash balance on hand November 14, 1895	\$ 14,470 70
Rental on endowment fund land.....	\$ 5,246 51
Rental on land purchased with interest fund....	861.95
Interest on endowment fund invested in farm mortgages, bonds, and state warrants	34,952.11
Rental on land obtained by the foreclosure of endowment fund mortgages	211.00
Interest on interest fund invested in farm mortgages	5,324 48
Total.....	46,506.05
Morrill support fund—installment for 1896	2,000 00
Total.....	\$ 48,506.05

EXPENDITURES.

Salaries—		
Morrill fund.....	\$ 13,728.18	
Interest fund.....	20,407 93	\$34,136.11
Agricultural department—		
Current expenses.....	\$ 1,895.05	
Foreman.....	550.00	
Permanent improvements.....	82.92	
Class expenses.....	97.79	2,125.76
Creamery credit		1,032.65
Dairy—		
Salary of G. L. McKay.....		1,200.00
Apparatus and current expenses (Cr. \$142.94).		
Horticultural department—		
Current expenses and experimentation ...	\$ 648 76	
Assistant.....	383 29	1,032 05
Veterinary department—		
House surgeon	\$ 200.00	
Current expenses and apparatus.....	347 51	547.51
Pathological department—		
Current expenses and apparatus	\$ 79.82	
Microscope and rental.....	125 00	204.82
Mechanical department—		
Assistants.....	\$ 2,900.00	
Current expenses and equipment.,	1,875.00	
Nonresident lecturer.....	50.00	4,825.00
Civil engineering—		
Assistant	\$ 300.00	
Current expenses and equipment.....	599.93	
Nonresident lecturer.....	30 00	929 93
Physics and electrical engineering—		
Current expenses and apparatus.....		1,117.85
Mining engineering.....		
		686.71
Military tactics and physical culture—		
Current expenses and flags	\$ 222.97	
Flag and flag staff	94.40	317.37
Department of chemistry—		
Assistants	\$ 925.00	
Current expenses and apparatus	552.13	1,477.13
Agricultural chemistry—		
Assistant.....	\$ 113.19	
Current expenses and apparatus.....	394.12	507.81
Entomology and zoology—		
Assistant.....	\$ 248.72	
Current expenses and apparatus.....	604.74	853.46
Botany—		
Assistants.....	\$ 300.00	
Current expenses and apparatus	298.96	598.96
Mathematics and secretary's office—		
Assistants and clerk hire.....		1,461.77
Domestic economy.....		
		200.01
Department of music—		
Salary of director	\$400 00	
Instrumental music, public exercises.....	100.00	
Current expenses	37.90	537.90

Library—		
Librarian.....	\$ 566.92	
Assistant.....	150.00	
Expenses, books and periodicals.....	1,869.00	\$ 2,585.92
Public grounds.....		1,192.85
Sabbath services.....		474.80
Public rooms—		
Furniture.....	\$ 535.10	
Heating, lighting and janitor service.....	3,350.00	3,885.10
Contingent expense.....		4,951.76
Total		\$ 66,942.23
Less dairy credit		142.94
Total net ordinary expenses.....		\$ 66,799.29
Cash on hand—		
Morrill fund.....	\$ 15,962.93	
Interest fund.....	304.53	16,267.46
Total.....		
Total.....		\$ 83,066.75

EXHIBIT "B."

The following shows the ordinary income of the college from the national support funds for the fiscal year ending November 10, 1897, together with the expenditures on account of the various departments:

RECEIPTS.

Cash balance on hand November 12, 1896.....		\$ 16,267.46
Rental on endowment fund land.....	\$ 3,985.52	
Rental on land purchased with interest fund.....	607.95	
Interest on endowment fund invested in farm mortgages.....	38,245.31	
Rental on land obtained by the foreclosure of endowment fund mortgages.....	168.50	
Interest on interest fund invested in farm mortgages.....	4,742.47	47,726.75
Total.....		
Morrill support fund—part of installment for 1897.....		15,000.00
Total.....		\$ 78,997.21

EXPENDITURES.

Salaries—		
Morrill fund.....	\$ 21,973.05	
Interest fund.....	13,618.70	35,591.81
Agricultural department—		
Current expenses.....	\$ 1,301.75	
Foreman.....	600.00	
Permanent improvements.....	341.63	
Class expenses.....	140.00	
Wilcox suit.....	216.39	2,599.77
Creamery credit.....		1,192.06
Dairy—		
Salary of G. L. McKay.....		1,200.00
Apparatus and current expenses.....	\$ 132.20	
Horticultural department—		
Current expenses and experimentation.....	837.35	
Assistant.....	399.97	1,237.32
Veterinary department—		
House surgeon.....	\$ 200.00	
Current expenses and apparatus	303.58	503.58

Pathological department—Current expenses and apparatus.....		\$ 64.48
Mechanical department—		
Assistants.....	\$ 2,900.00	
Current expenses and equipment.....	1,679.09	4,579.09
Civil engineering—		
Assistants	\$ 300.00	
Current expenses and equipment.....	793.95	1,093.95
Physics and electrical engineering—Current expenses and apparatus		765.90
Mining engineering		93.74
Military tactics and physical culture—Current expenses and flags		196.88
Department of chemistry—		
Assistants.....	\$ 925.00	
Current expenses and apparatus.....	631.16	1,556.16
Agricultural chemistry—		
Assistant.....	\$ 100.00	
Current expenses and apparatus	400.81	500.81
Entomology and zoology—Current expenses and apparatus.....		618.14
Botany—		
Assistants.....	\$ 350.00	
Current expenses and apparatus.....	299.61	649.61
Mathematics and secretary's office—Assistants and clerk hire....		1,450.00
Domestic economy.....		814.24
Department of music—		
Salary of director.....	\$ 400.00	
Instrumental music, public exercises.....	100.00	
Current expenses.....	28.82	528.82
Library—		
Librarian.....	\$ 600.00	
Assistants.....	150.00	
Expenses, books and periodicals.....	1,750.58	2,500.58
Public grounds.....		1,287.64
Sabbath services		429.15
Public rooms—		
Furniture	\$ 74.86	
Heating, lighting and janitor service.....	2,625.30	2,700.19
Contingent expense.....		4,558.12
Total.....		\$ 66,211.91
Less dairy credit		182.20
Total net ordinary expenses.....		\$ 66,079.71
Cash on hand—		
Morrill fund	\$ 8,989.88	
Interest fund.....	8,927.62	12,917.50
Total		\$78,997.21

EXHIBIT "C."

The following statement shows for the fiscal year ending Nov. 10, 1897—

1. Total expenditures of each department.
2. Total income of each department.
3. Total amount of interest fund expended by each department.
4. Appropriation by the board to each department.

ACCOUNT.	Total amount expended.	Total income, sales, etc.	Amount of ap- propriation expended.	Amount of ap- propriation.
Salaries.....	\$ 35,591.81	.....	\$35,591.81	\$35,591.81
Agricultural department—				
Current expenses.....	7,529.85	\$ 6,237.00	1,301.75	1,400.00
Foreman.....	600.00	.....	600.00	600.00
Permanent improvements.....	389.63	48.00	341.63	350.00
Class expenses.....	140.00	.....	140.00	140.00
Wilcox suit.....	216.39	.....	216.39	216.39
Oreamery credit.....	21,678.48	20,486.42	1,192.07	1,200.00
Dairy—				
Apparatus and current expenses.....	549.40	681.60	.....	.....
Salary of G. L. McKay.....	1,200.00	.....	1,200.00	1,200.00
Horticultural department—				
Assistant.....	399.97	.....	399.97	400.00
Current expenses and apparatus.....	2,192.14	1,354.79	837.35	850.00
Veterinary department—				
House surgeon.....	200.00	.....	200.00	200.00
Current expenses and apparatus.....	488.58	185.00	303.58	350.00
Mechanical department—				
Assistants.....	2,900.00	.....	2,900.00	2,900.00
Current expenses and equipments.....	3,978.53	2,299.44	1,679.09	1,700.00
Civil engineering—				
Assistant.....	300.00	.....	300.00	300.00
Current expenses and equipment.....	883.73	89.78	793.95	800.00
Physics and electrical engineering—				
Current expenses and apparatus.....	1,098.52	332.62	765.90	925.00
Mining engineering.....	98.74	.....	93.74	200.00
Military tactics and physical culture—				
Current expenses.....	196.83	.....	196.83	200.00
Agricultural chemistry—				
Assistant.....	100.00	.....	100.00	100.00
Current expenses and apparatus.....	834.60	433.79	400.81	400.81
Department of chemistry—				
Assistants.....	925.00	.....	925.00	925.00
Current expenses and apparatus.....	1,889.16	1,268.00	631.16	795.00
Entomology and zoology—				
Current expenses and apparatus.....	793.60	175.46	618.14	625.00
Pathological department—				
Current expenses and apparatus.....	74.93	10.50	64.43	100.00
Botany—				
Assistants.....	350.00	.....	350.00	350.00
Current expenses and apparatus.....	460.06	160.45	299.61	300.00
Mathematics and secretary's office—				
Assistants and clerk hire.....	1,450.00	.....	1,450.00	1,450.00
Domestic economy.....	544.84	230.60	314.24	325.00
Department of music—				
Salary of director.....	400.00	.....	400.00	400.00
Instrumental music, public exercises.....	100.00	.....	100.00	100.00
Current expenses.....	28.82	.....	28.82	40.00
Library—				
Librarian.....	600.00	.....	600.00	600.00
Assistant.....	150.00	.....	150.00	150.00
Current expenses, books and periodicals.....	1,754.08	3.50	1,750.58	1,925.00
Sabbath services.....	429.15	.....	429.15	450.00
Public grounds.....	1,317.49	29.85	1,287.64	1,300.00
Public rooms—				
Furniture.....	74.86	.....	74.86	450.00
Heating, lighting and janitor service.....	2,625.30	.....	2,625.30	2,700.00
Contingent expense.....	4,558.12	.....	4,558.12	5,088.71
Total.....	\$100,087.11	\$34,007.40	\$66,211.91	\$68,047.72
Dairy credit balance current expense.....	.....	.....	122.20	.....
			\$66,079.71	

TREASURER'S REPORT—CONTINUED.

	BALANCES NOVEM- BER 14, 1895.		FISCAL YEAR.		TOTAL.		INTEREST FUND.		MORRILL SUPPORT FUND.		BALANCES NOVEM- BER 11, 1896.	
	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.
Agricultural chemistry.			923.80	416.49	923.80	416.49	507.31					
Public grounds ..			1,233.18	60.33	1,233.18	60.33	1,192.85					
Sabbath services ..			474.80		474.80		474.80					
Pathology			210.82	6.00	210.82	6.00	204.82					
State appropriations			36,435.84	36,912.63	36,435.84	36,912.63						476.79
Total	\$ 83,404.20	\$103,722.90	\$171,106.20	\$172,833.36	\$234,510.40	\$278,546.29	\$46,391.86	\$47,750.09	\$15,962.93	\$15,962.93		
Balance interest fund on hand							1,868.78				\$ 1,858.73	
Bal. Morrill support fund on hand									\$15,962.93			15,962.93
Cash to balance—												
Experiment station.....	313.95		911.75		1,225.70						\$ 1,225.70	
State appropriations.....			476.79		476.79						476.79	
Morrill support fund	14,370.86		1,592.07		15,962.93						15,962.93	
Other sources	2,633.92			1,263.45	1,370.47						1,370.47	
Total.....	\$100,722.93	\$100,722.93	\$174,086.81	\$174,086.81	\$278,546.29	\$278,546.29	\$47,750.09	\$47,750.09	\$15,962.93	\$15,962.93	\$103,790.09	\$103,790.09

TREASURER'S REPORT—STEWARD'S DIVISION.

	BALANCES NOVEM- BER 14, 1895.		FISCAL YEAR.		TOTAL.		BALANCES NOVEM- BER 11, 1896.	
	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.
Boarding department.....	\$ 19.23		\$ 20,736.96	\$ 20,990.09	\$ 20,756.19	\$ 20,990.09		\$ 223.90
Damages			43.00	98.15	43.00	213.35		169.35
Hospital.		114.20	842.30	760.55	842.30	1,055.78		213.48
Fires, lights and incidentals.....	1.70	295.18	14,853.25	14,855.08	14,854.95	14,855.08		10.08
Cash to balance.....	388.45		223.31		616.76		\$ 616.76	
Total.....	\$ 409.38	\$ 409.38	\$ 26,203.82	\$ 26,203.82	\$ 26,613.20	\$ 26,613.20	\$ 616.76	\$ 616.76

TREASURER'S REPORT—CONTINUED.

	BALANCES NOVEM- BER 12, 1896.		FISCAL YEAR.		TOTAL.		INTEREST FUND.		MORRILL SUPPORT FUND.		BALANCES NOVEM- BER 10, 1897.	
	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.
.....			984 00	453 79	984 00	453 79	500.81					
.....			1,317.49	32.85	1,317.49	32.85	1,287.64					
.....			459.15		459.15		459.15					
.....			74.53	10.50	74.53	10.50	64.43					
.....		476 79	37,001.89	37,232.10	37,002.58	37,708.99						16.01
hand.....	\$ 84,754.20	\$103,790.09	\$168,537.00	\$164,359.34	\$2351,291.20	\$2383,149.43	\$44,106.66	\$49,088.48		\$ 8,959.88		
on hand.....							4,901.92				\$ 4,961.92	
.....	1,225 70			1,203.89	21.81						21.81	
.....	476 79			450 73	16 01						16.01	
.....	15,003.98			6,975 05	8,989.88						8,989.88	
.....	1,370.47		6,460 00		7,830.53						7,830.53	
Total.....	\$100,771.09	\$103,790.09	\$172,997 06	\$173,997.06	\$238,149 43	\$238,149 43	\$19,088.48	\$49,088.48	\$ 8,959.88	\$ 8,959.88	\$ 20,062.43	\$ 20,062.43

Other sources.....

TREASURER'S REPORT—STEWARDS'S DIVISION.

	BALANCES NOVEM- BER 12, 1896.		FISCAL YEAR.		TOTALS.		BALANCES NOVEM- BER 10, 1897.	
	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.	Debit.	Credit.
Boarding department.....		\$ 238 90	\$ 21,349 56	\$ 21,538 18	\$ 21,349 56	\$ 21,007.06		\$ 557 53
Damages.....		169 85		72 64		241 99		241 99
Hospital.....		213 43	638 18	724 50	538 18	935 03		240 85
Fires, lights and incidentals.....		10.08	13,183 04	13,173 93	13,183 04	13,183 04		
Piano rent.....			30 50	33 00	30 50	32 00		1 50
F. J. Resler.....			783 10	745 10	783 10	745 10		14 00
A. M. Newens.....			338 45	386 45	338 45	386 45		
Cash to balance.....	\$ 616.76		496 10		1,114.86		\$ 1,114.86	
Total.....	\$ 616 76	\$16,763 96	\$6,767 95	\$6,767.93	\$ 27,884 60	\$ 27,884 60	\$ 1,114.86	\$ 1,114 86

STATE APPROPRIATIONS.

The following is a statement of the different appropriations for the biennial period ending November 10, 1897:

	Drawn from state treas- urer.	Expended.	Balance No- vember 10, 1897.
State repair and improvement fund of 1896.....	\$ 910.06	\$ 910.06	.....
State contingent fund of 1896.....	973 25	973.25	.....
State experimental fund of 1895, 1896 and 1897.....	4,460.79	4,452.39	\$ 8.40
Improvements and current expenses.....	24,182 87	24,175.36	7.51
Deep well.....	14,066.37	14,066.37	.....
Waterworks.....	17,678.65	17,678.65	.....
Greenhouse.....	6,000.00	6,000.00	.....
Forge shop.....	1,831.41	1,831.41	.....
Remodeling farm barns.....	3,996.78	3,996.68	.10
Sewage disposal system.....	44.55	44.55	.....
Total.....	\$ 74,144 78	\$ 74,128.73	\$ 16.01

MORRILL FUND.

The following is a summary of the report made to the secretary of the interior for the year ending June 30, 1896:

RECEIPTS.	
July 1, 1895. Balance on hand.....	\$ 3,283.82
July 10, 1895. Received from state treasurer.....	21,000.00
Total.....	\$ 24,283.82
EXPENDITURES.	
Paid for agricultural instruction.....	\$ 5,749.93
Paid for mechanic arts instruction.....	5,566.03
Paid for mathematical science instruction....	1,066.64
Paid for natural and physical science instruction.....	7,895.99
Paid for economic science instruction.....	533.32
Total.....	\$ 20,811.90
Balance cash on hand June 30, 1896.....	3,421.42
Total.....	\$ 24,233.32

The following is a summary of the report made to the secretary of the interior for the year ending June 30, 1897:

RECEIPTS.	
July 1, 1896. Balance on hand.....	\$ 3,421.42
August 6, 1896. Received from the state treasurer.....	22,000.00
Total.....	\$ 25,421.42
EXPENDITURES.	
Paid for agricultural instruction.....	\$ 5,824.89
Paid for mechanic arts instruction.....	4,949.88
Paid for English language instruction.....	150.00
Paid for mathematical instruction.....	1,066.64
Paid for natural and physical science instruction.....	8,999.88
Paid for economic science instruction.....	533.32
Total.....	\$ 21,524.61
Balance on hand June 30, 1897.....	3,896 81
Total.....	\$ 25,421.42

Respectfully submitted,

HERMAN KNAPP
Treasurer.

REPORT OF LAND AGENT.

To the Board of Trustees of the Iowa Agricultural College and Farm :

The following report of the transactions of the land department of the Iowa State Agricultural college from November 1, 1895, to October 31, 1896, inclusive, is hereby submitted:

COLLECTIONS.

Interest or rent on lands belonging to the congressional grant....	\$ 5,246.51
Interest or rent on lands purchased with accumulated interest...	479.95
Interest or rent on lands obtained by foreclosure of loans made from endowment fund	126.00
Interest on loans made from accumulated interest.....	5,706.48
Total income collected during fiscal year	\$ 11,558.94
Sale of lands belonging to congressional grant.....	\$ 18,997.43
Principal on loans made from accumulated interest.....	15,750.00
Total principal collected during fiscal year.....	34,747.43
Total collections.....	\$ 46,306.37

DISBURSEMENTS.

Paid college treasurer as follows:

Interest or rent on lands belonging to the congressional grant....	\$ 5,246.51
Interest or rent on lands purchased with accumulated interest...	479.95
Interest or rent on lands obtained by foreclosure of loans made from endowment fund.....	126.00
Interest on loans made from accumulated interest.....	5,706.48
Principal on loans made from accumulated interest.....	15,750.00
Total paid college treasurer for fiscal year.....	\$ 27,308.94
Remitted state treasurer as follows:	
Sale of lands belonging to congressional grant.....	18,997.43
Total disbursements.....	\$ 46,306.37

LOANS.

Loan No. 130. Caroline Jakobsen	\$ 2,000.00
Loan No. 131. Christine Erickson	800.00
Loan No. 132. L. K. Anderson	1,100.00
Loan No. 133. Ole T. Eames.....	2,000.00
Loan No. 134. John J. Griffin.....	2,000.00
Loan No. 135. Marilla McKimm	1,500.00
Loan No. 136. Mrs. M. M. Adamson.....	1,200.00
Loan No. 137. Ole K. Grane.....	1,500.00
Loan No. 138. Dorthea Havnen.....	2,000.00
Loan No. 139. Christ. O. Mehl	1,200.00
Loan No. 140. Fred J. Schuver	900.00
Loan No. 141. Gustov Raake.....	900.00
Total loaned from November 1, 1895, to October 31, 1896, inclusive.....	\$ 17,100.00
Amount of loans outstanding November 1, 1895.....	82,350.00
Total.....	\$ 99,450.00
Amount of principal paid from November 1, 1895, to October 31, 1896.....	15,750.00
Total of loans outstanding.....	\$ 83,700.00
Number of acres of congressional grant patented since last report, 5,712.34; value of same, \$18,997.43.	

Respectfully submitted,

HERMAN KNAPP,
Agent.

LIST OF RENEWED LEASES.

64 se. Humboldt, 4-23-27-160, \$2.50, \$400, D. Marty, September 4, 1895, 5; 8 per cent.
1011 ne. Clay, 17-24-36-160, \$3 \$480, W. E. Brown, December 31, 1894, 5; 8 per cent.
1067 ne. Lyon, 31-28-48-160, \$2.25, \$360, D. J. Carpenter, September 18, 1894, 5; 8 per cent.
1068 nw. Lyon, 31-28-48-160, \$2.25, \$360, D. J. Carpenter, September 18, 1894, 5; 8 per cent.
1605 e½ of se. Kossuth, 23-27-27-80, \$3, \$240, A. D. Clarke, January 6, 1896, 5; 8 per cent.
1663 se. Palo Alto, 5-26-31-160, \$5, \$800, J. T. Ashworth, July 19, 1896, 10; 8 per cent.
1891 sw. Dickinson, 17-28-36-160, \$1, \$640, D. Gish, November 24, 1895, 5; 8 per cent.
1896 sw. Kossuth, 27-25-27-160, \$3 50, \$560, O. T. Simpson, December 31, 1896, 5; 8 per cent.
1946 sw. Kossuth, 1-28-30-160, \$3.50, \$560, J. B. Moulton, June 15, 1896, 5; 8 per cent.
1947 se. Kossuth, 2-28-30-160, \$3.50 \$560, J. N. Harris, June 15, 1896, 5; 8 per cent.
1945 se. Kossuth, 1-28-30-160, \$3 50, \$560, J. B. Moulton, June 15, 1896, 5; 8 per cent.
1959¼ e½ of ne. Emmet, 30-100-34-80, \$4, \$320, G. Petz, July 1, 1896, 5; 8 per cent.
1959¼ w½ of ne. Emmet, 30-100-34-80, \$4, \$320, G. Petz, July 1, 1896, 5; 8 per cent.
1970 nw. se. Woodbury, 36-27-45-40, \$3 75, \$150, W. A. Smith, August 6, 1896, 5; 8 per cent.
Totals, 1,880 acres, \$6,310.

REPORT OF LAND AGENT.

*To the Board of Trustees of the Iowa State College of Agriculture and
Mechanic Arts:*

The following report of the transactions of the land department of the Iowa State College of Agriculture and Mechanic Arts, from November 1, 1896, to October 31, 1897, inclusive, is hereby submitted:

COLLECTIONS.

Interest or rent on lands belonging to the congressional grant	\$	3,965.53
Interest or rent on lands purchased with accumulated interest.....		607.95
Interest or rent on land obtained by foreclosure of loans made from endow- ment fund.....		126.00
Interest on loans made from accumulated interest		4,742.47
Total income collected during fiscal year	\$	9,441.94
Sale of lands belonging to congressional grant.....	\$	8,479.15
Principal on loan made from accumulated interest.....		9,900.00
Total principal collected during fiscal year.....		18,379.15
Total collections.....	\$	27,821.09

DISBURSEMENTS.

Paid college treasurer as follows:		
Interest or rent on lands belonging to the congressional grant.....	\$	3,965.53
Interest or rent on lands purchased with accumulated interest.....		607.95
Interest or rent on lands obtained by foreclosure of loans made from endowment fund		126.00
Interest on loans made from accumulated interest.....		4,742.47
Principal on loans made from accumulated interest.....		9,900.00
Total paid college treasurer for fiscal year.....	\$	19,341.94
Remitted state treasurer as follows:		
Sale of lands belonging to congressional grant.....		8,479.15
Total disbursements.....	\$	27,821.09

LOANS.

There has been loaned of the contingent fund principal since the date of the last report, \$17,100 at 7 per cent, secured on improved farm lands.
There has been loaned of the contingent fund principal since the date of the last report, \$7,350 at 7 per cent, secured on improved farming lands, as follows:

Loan No. 142.	Hattie Johnson	\$ 1,000.00
Loan No. 143.	S. G. Palmer.....	2,000 00
Loan No. 144.	George Sorenson.....	1,300.00
Loan No. 145.	Irving Baldock	1,200.00
Loan No. 146.	Oatherine Billings.....	550 00
Loan No. 147.	Oella P. Larson	1,200.00
Total loaned from November 1, 1896, to October 31, 1897, inclusive		\$ 7,250.00
Amount of loans outstanding November 1, 1896.....		83,700.00
Total.....		\$ 91,050 00
Amount of principal paid from November 1, 1896, to October 31, 1897.....		9,900.00
Total of loans outstanding.....		\$ 81,150.00
Number of acres of congressional grant patented since last report, 2,476.00; valuation of same, \$8,479.15.		

Respectfully submitted,

HERMAN KNAPP,
Land Agent.

ENGINEERS REPORT ON WATERWORKS.

To the Board of Trustees of the Iowa State Agricultural College, Ames, Iowa:

GENTLEMEN—I would respectfully report as follows concerning the college waterworks, for whose construction the legislature provided in 1896:

HISTORY.

In 1893 I was instructed by your honorable body to prepare plans for a college waterworks system. On studying the situation I found that the system then existing consisted of two old pumps, of small size, delivering water to small tanks in the various buildings through lines of one and one-half to three inch wrought iron pipes. The source of supply had for several years been a spring northeast of the farm barns. The plant was capable only of supplying, between break-downs, the water absolutely required to keep the college in operation from day to day. Exposed without any protection against destruction by fire were buildings and equipment which have cost more than \$500,000, and which include collections and records beyond price, because not replaceable. The buildings are of large size and are scattered over as much ground as is occupied by a good-sized village. The college uses more water, also, than any small city in this vicinity, the daily consumption being already about 30,000 gallons, with a prospective increase to 50,000 gallons in the near future.

It was apparent that the system would have to be extensive and that it must be thoroughly reliable. The fact that the college was a state institution and the largest engineering school in Iowa made it evident, also, that the works would serve as an object lesson, both to the citizens of the state and to hundreds of young engineers. Hence it was necessary to be careful to keep in accord with the best engineering practice in all particulars in the design and construction of the system.

I prepared plans for the system substantially as now completed, and these were adopted by the board of trustees in 1893. Funds for the construction were not available at that time, and it was not until 1896 that the necessary appropriation was secured from the legislature. In the meantime the necessity for the system had been demonstrated by the enforced closing of the college for two weeks in 1895 on account of lack of water, and by two or three fires, which had to be extinguished by the primitive method of carrying water in buckets.

The failure of the college spring in 1895 made it necessary to sink a deep well instead of developing the former supply as contemplated at first. In 1896 I made the modifications of the first plans rendered necessary by this fact and by the construction of Margaret hall.

At my request these plans were then submitted to Mr. Chester B. Davis, Mem. Am. Soc. C. E., consulting engineer, of Chicago, who completely approved them. To avoid interfering with my department work, as college was in session, Mr. Davis was also, at my request, employed to design the tower, and he

prepared details according to my general plan previously adopted, using dimensions and calculations of stresses, and employing many details suggested by me. On account of sickness, however, Mr. Davis was unable to work up details properly. He withdrew his plans on this account and the price previously agreed upon for them was deducted from his fee. I then, in the summer vacation, prepared complete detailed plans, and both the general design and the details of the tower as built, have been originally suggested and fully worked out by myself. The plans for the tower were examined and approved by Mr. C. W. McMeekin, Assoc. Mem. Am. Soc. C. E., chief engineer Iowa Central railway, who served without pay as Mr. Davis' representative as Mr. Davis was taken sick. It has been a source of satisfaction to me that plans, both for the general system and for the tower and its details, which were originated and fully worked out by me, have been completely approved by competent consulting engineers to whom they were submitted. Mr. Davis prepared the specifications for the distribution system and Mr. McMeekin the plans for the tower.

In July, 1896, the contracts for the distribution system and the foundation of the water tower were awarded to Crellin & Lovell of Des Moines, who finished their work in November, 1896. At the same time the contract for the superstructure of the water tower was awarded to the King Bridge company of Cleveland, Ohio, who completed erection in August, 1897.

The contracts for the pumping station were let in May, 1897. Jackson & Moss of Des Moines, constructed the station, installed the pump, and laid the pipe line connecting with the distribution system. Their contract has just been completed. The pump was bought by the college from Henion & Hubbell of Chicago.

Miss Elmina Wilson has assisted in the drafting of the waterworks plans. Mr. E. C. Macy assisted in the drafting, in the surveying, and as inspector. Mr. G. M. Ashford inspected the field riveting of the tower. It gives me especial pleasure to mention the services of these three graduates of the college civil engineering department, and to commend the conscientious work of Jackson & Moss, also graduates, in executing their contract.

Prof. G. W. Bissell, of the college mechanical engineering department, has given much valuable advice and assistance in connection with the selection, installation and testing of the pumping plant.

The work has been executed under the direction of a committee of the board of trustees, composed of Trustees W. O. McElroy, of Newton; J. S. Jones, of Manchester; and C. F. Saylor, of Des Moines. Professor Stanton, secretary of the board, has also been very intimately connected with the work. These gentlemen have most carefully watched over the interests of the college in every feature of the work, and in so doing have faithfully executed the policy of the entire board of trustees.

DISTRIBUTION SYSTEM.

A map of the college campus showing the locations of the pipe lines, hydrants, valves, pumping station and water tower accompanies this report. By referring to this map the system will readily be understood. Attention is called to the following features:

The main eight inch pipe line makes the complete circuit of the campus. This arrangement rendered long branches to the different buildings unnecessary and avoided disfiguring the campus by ditches. Its great advantage, how-



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Height, 128 feet.

FORT DODGE, IOWA.

Capacity, 100,000 gallons.

ever, is that, since water can reach any point on the line by two independent routes, the capacity of the line in carrying water for fire streams is doubled, and no part of the college need be cut off from fire protection to permit repairs or extensions.

The mains are of ample size, being large enough to permit the concentration of four good hose streams on any important building.

Valves are freely used, making it unnecessary to shut off more than one short section of the pipe line at a time to permit repairs or extensions. A valve is placed between each hydrant and the main pipe line.

The hydrants have six inch inlet pipes connecting them with the mains. This is necessary to permit taking two good fire streams from a hydrant. The hydrants are so located that at least two are within easy reach of each important building.

The pipe lines were laid to regular grades, and blowoff valves emptying into drain tiles were placed at all low points on the grade line. This enables any section of the pipe line to be drained of water for repairs or making connections.

All of the above features of the system are in strict accord with good engineering practice. In all of them, however, the average city system is apt to be very deficient. Four inch street mains, four inch hydrant inlets, and the omission of valves often combine to render city waterworks of little value for fire protection.

The distribution system of the college waterworks includes, besides old pipe lines retained:

- 127 feet of 10-inch cast iron mains.
- 6034 feet of 8-inch cast iron mains.
- 961 feet of 6-inch cast iron mains.
- 181 feet of 4-inch cast iron mains.
- 144 feet of 3-inch galvanized wrought iron mains.
- 555 feet of 2-inch galvanized wrought iron mains.
- 17 hydrants.
- 1 10-inch gate valve.
- 12 8-inch gate valves.
- 18 6-inch gate valves.
- 3 4-inch gate valves.
- 4 3-inch gate valves.
- 18 2-inch gate valves.

WATER TOWER.

A gravity system of waterworks is more reliable than any other kind, and hydraulic engineers prefer such a system wherever circumstances make it possible. In the case of the college waterworks it was especially necessary to place as little reliance as possible on pumping machinery for fire protection, because during vacation, when little water is used, the pumps would be very liable not to be ready when needed. At the best, there is always danger of delay in starting up fire pumps, which may cause the loss of the precious first few minutes at a fire. The newspapers reported that this was the case at the burning of the State University library building in 1896, and similar notices are often seen in accounts of fires.

In the case of the college waterworks the nearest approach to a gravity system possible was by the use of a large elevated tank. The college buildings are of such size and height that this tank had to be larger and higher than

is usually required for village systems. As constructed, its capacity when two-thirds full is sufficient to supply four good fire streams for two hours, and the height is sufficient to throw these to the top of any building on the campus. While not an excessive, this is an ample, provision for fire protection.

On an accompanying plate views of three water towers are shown. These are the largest in Iowa. The views are made to the same scale and indicate the relative sizes correctly. The college tower is the only one in the west, much larger than those at Jefferson and Fort Dodge.

The college tank is of steel, 24 feet in diameter by 40 feet high, besides the hemispherical bottom. Its capacity is 162,000 gallons, or 5,200 barrels. The balcony floor is 110 feet above the capstones, and the total height of the structure is 168 feet. The use of a steel instead of a wooden tank is a point of superiority over the ordinary tower. In designing the structure great care was taken to have all details in accord with the best engineering practice and to give ample strength to all parts. As will be explained later, great care has been taken to insure the best material and the best work in construction throughout. In all these particulars the faults common in the design and construction of water towers have been carefully avoided. Yet the cost has been no greater in proportion to the capacity and height than cities in this vicinity usually pay for their towers.

In preparing the design considerable attention was given to the appearance of the tower, which is perhaps the most conspicuous structure on the campus. In this connection it may be mentioned that a cut of the tower will appear in the next edition of the standard engineering text-book on structural designing in this country, the author of which says: "It is much the handsomest thing of the kind I have ever seen; * * * it is a great pleasure to look at it." The college water tower is the first one in this country of any considerable size in which the outline of the tower proper is curved.

PUMPING STATION.

Exterior and interior views of the new pumping station are given on plates accompanying this report. The building is 20x42 feet inside, and besides containing the pumping machinery furnishes room for the college hose carts and for some laboratory equipment.

The building communicates directly with the boiler room of the college power and lighting station, the boilers of which are utilized to supply steam for pumping. The building is located directly over the artesian well, 2,215 feet deep, from which the college water supply is taken.

It may be said here that the mere fact of having the pumping station located where the power station attendant can operate the pump means an immediate saving to the college of one man's wages, or \$600 annually. This, at ordinary rates on city bonds, is the interest on \$12,000, which is more than the entire cost of the deep well.

In accordance with your instructions I made a very careful study of the subject of deep well pumping machinery before the contract for the new pump was let. In the course of this study I visited numerous plants actually in use, corresponded with most of the manufacturers of deep well pumps in this country, and collected much unpublished information to supplement the scanty published records of the efficiencies of different types of deep well pumps. Most of the new information was obtained through the courtesy of the managers of Iowa waterworks, with whom I corresponded. As the result of my study

DEEP WELL PUMPING STATION.

DEEP WELL PUMP.

I became convinced that deep well pumps of the types most commonly used at the present time are very inefficient. They are sold on the representations of agents, and I found it impossible to get the manufacturers to give any definite guarantees of their economy of operation. The low efficiencies of such pumps are probably the worst of the faults in Iowa waterworks systems which drain the pockets of unsuspecting taxpayers.

I found, however, that there is a decided movement at the present time to use power pumps, which are more efficient than the direct acting pumps commonly used. The trouble with this as yet is that deep well power pumps are not usually made strong and rigid enough to stand, when used for high lifts, the shocks and stresses, which are much greater than in the more elastic direct acting steam pumps.

What hydraulic engineers would like to use would be a deep well power pump which would be very strong and rigid; which would, by keeping the water in continuous motion, avoid the shocks and stresses from water hammer, and which would at the same time be highly efficient. In a word, they would like a pump which, for deep wells, could take the place of the common triplex pump for surface work.

A view of the pump purchased by the college, which is of an entirely new type, is shown on an accompanying plate. It will be seen that the entire pump is mounted on a bed plate consisting of a single heavy casting, thus insuring strength and rigidity. The pump is of the type known as double acting, having two plungers, one above the other, each of which delivers on the up stroke while the other is going down. The down stroke is made much more quickly than the up, giving time for each plunger to start up before the up stroke of the other stops. This keeps the water column in constant motion, and avoids most of the shock from water hammer due to variations in the rate of delivery. It will be seen from the cut that the pump is driven by a compound vertical engine, bolted to the bed plate of the pump. We have also arranged to secure additional economy of operation by running this engine condensing, making use of a condenser already owned by the college. The manufacturers guaranteed a duty for the pump and engine of 40,000,000 foot pounds of work per 1,000 pounds of steam. This means a saving to the college in the cost of coal of about \$400 per year over the common type of deep well pump. This is the interest on \$8,000, which is nearly twice the entire cost of the entire pumping station. The actual test gave a duty of 45,500,000 foot pounds per 1,000 pounds of steam, which is considerably higher than guaranteed. The information which I collected showed that the ordinary deep well pumps have efficiencies only one-ninth to one-fifth of this.

What I have said above must not be understood as an indorsement of any particular make of pump in preference to others for general use. Different pumps are suited to different circumstances, and in each particular place all the particular considerations should be considered in making a selection. In our case the water had to be pumped from a depth of 300 feet below to a height of 150 feet above the floor of the pumping station, and no fire pumps were required. I have given above the considerations which led to the selection of the pump best suited to these conditions.

SUPERVISION.

Throughout the construction of the system great care has been taken to secure good material and workmanship. Every valve, hydrant and piece of

pipe was carefully inspected before allowed to be used. All the joints of the pipe lines were tested under pressure for tightness before the trenches were refilled. In refilling the trenches so much care was taken that there has been no appreciable settling since. The cement for the tower foundations was tested and one entire carload rejected because not quite up to the specifications. The mixing and the placing of every batch of concrete in the foundations was watched. Tests have also been made of cubes of concrete taken without warning from the piers during construction, and these tests show a quality of concrete very much better than the average.

By employing the services of an inspection bureau the steel for the water tower has been under supervision from the time that it was in the ore. The college has on file records giving the chemical analysis of each melt and the exact results of tests of the strength, ductility and toughness of specimens cut from its finished product. These records show also the number, kind and weight of the pieces of steel rolled from each melt, which were all carefully inspected before allowed to be shipped from the steel mills. At the shops, also, every detail of the work was carefully inspected. The paint for the tower was analyzed by Prof. A. A. Bennett of this college, free of charge.

Every detail of the construction of the system, including the erection of the tower, has been carefully supervised by myself and Mr. Macy and Mr. Ashford.

No waterworks system ever constructed in Iowa has had more careful supervision than the college system, and very likely none other has equaled it in this respect. It is unfortunately a quite general custom for our cities not to employ disinterested engineers to design their waterworks systems and supervise construction, but to trust themselves wholly to the contractors, who have every motive to escape doing good work, and who, though they style themselves "practical" engineers, are often incapable of doing more than imitate for each new place what they have seen done elsewhere, without regard to vital differences in the requirements. The plans and specifications prepared under these circumstances are often not worthy of the name, and if they were, no committee ignorant of waterworks engineering, no matter how well meaning, could prevent the tricks of the trade by which unscrupulous contractors enlarge their profits at the expense of good work. It is a matter for congratulation that there are so many contracting engineers who, under the unfavorable conditions of such competition, still do honest and able work. Since 1893 no less than four instances have come to my personal knowledge of incipient failure at the first filling of water towers designed by parties who at one time or other bid for the college tower. I have all the greater admiration for those other engineers who I know do good work with only their superior skill in designing to enable them to compete with the cheapness due to inferior work. Many well designed and constructed waterworks testify to the skill and integrity of such men. When they can be sure that all work on which they bid will be as carefully supervised and the specifications as rigidly enforced, as has been the case with the college waterworks, their task will be much easier than now.

FINANCIAL STATEMENT.

For a more detailed statement of the cost of the college system than is given below see the report of the college secretary. All the original bills are on file with the college treasurer and can be seen at any time. As will be seen

in the secretary's report the payments for the system have not all been made yet, hence the cost of the different items as given below can be considered as only approximately correct. The expenditures still to be made have, however, been very carefully estimated, and the results made the total costs of the different parts of the system as follows:

Distribution system.....	\$ 8,978.99
Water tower	10,281.37
Pumping station and machinery	4,319.44
Fire department supplies	683.05
Interior plumbing.	79.76
Consulting engineer's fee.....	350.00
Preparation of plans.. ..	110.13
Surveying	75.14
Inspection	221.53
Miscellaneous.....	101.08
Deep well.....	10,799.51
Total.....	\$ 34,000.00

The deep well was not sunk under my supervision. The furnishing of a temporary water supply while the deep well was being drilled cost \$2,000 in addition to the above items.

My original estimate of the cost of the waterworks system was \$21,500, besides the deep well and the consulting engineer's fee. The actual costs of the different items have been very close to the original estimates except in the case of the pumping station. For this we have erected a larger and better building than was at first proposed, and also have installed a more efficient pump. This increased the first cost, but effects, as I have already shown, an annual saving which would warrant the expenditure of nearly twice the entire cost of the building and machinery.

In comparing the cost of the college waterworks with those of city systems regard should be had to many points of difference in the requirements, and account should be taken of the better grade of work secured in the college system. The most expensive single item in the college waterworks is the deep well. Most cities do not have to sink so deep a well at all to get a sufficient supply. Others put down a cheap well of small diameter, omitting much of the casing. The college could have done this at much less expense, and obtained perhaps seventy-five gallons per minute in place of the 150 gallons we now get, but in a few years we would probably have to put down another well to meet our increased needs, just as so many cities do. The total cost would then be greater than now, and we would have to operate two pumps instead of one, thus permanently increasing the operating expenses. Our water tower had to be much larger and higher than the ordinary size, because our buildings are much larger and higher than the stores and residences of small cities, and because our requirements made it advisable for us to rely wholly on our water tower for fire protection. Most cities put in cheap but very inefficient deep well pumps. Many cities cheapen the first cost of their waterworks systems by putting in small mains and not using many valves, but by so doing they make the systems of little value for fire protection. Many systems are incomplete at first, and must soon be extended and improved to meet the city's needs. Often the cost of these extensions and improvements is not taken into account in reporting the cost of the system. The cost of the college system also includes items not usually included in the published costs of city systems, such, for example, as hose, hose carts and connections to buildings.

BIDS FOR WATERWORKS, IOWA AGRICULTURAL COLLEGE, JULY 22, 1896.

.....

If all these things are properly taken into account it will be found that no more economical waterworks system was ever constructed in this state than the college system. Every dollar put into it represents value received. There was strong competition for all the contracts and they were let at figures which allowed only narrow margins for profits to the successful bidders.

The bids for the distribution system and water tower were as given in the secretary's report. Eleven separate bids were received for the hose and hose carts, and eighteen for a part or all of the pumping station and machinery. In both of these cases the bids were based on such widely different grades of material or machinery that it is impossible to present in reasonable space a fair comparison of them. The original bids are on file with the college secretary and in my office. Respectfully submitted,

A. MARSTON.

PROCEEDINGS OF BOARD OF TRUSTEES.

ABSTRACT OF THE PROCEEDINGS OF THE BOARD
OF TRUSTEES, 1896-97.

MEMBERS OF THE BOARD.

	TERM EXPIRES.
<i>First District.</i> —Hon. Hamilton Smith, New London	1898
<i>Second District.</i> —Hon. C. M. Dunbar, Maquoketa.....	1898
<i>Third District.</i> —Hon. J. S. Jones, Manchester.....	1902
<i>Fourth District.</i> —Hon. A. Schermerhorn, Charles City	1898
<i>Fifth District.</i> —Hon. A. V. Stout, Parkersburg	1900
<i>Sixth District.</i> —Hon. W. O. McElroy, Newton.....	1902
<i>Seventh District.</i> —Hon. C. F. Saylor, Des Moines	1900
<i>Eighth District.</i> —Hon. A. B. Shaw, Corning.....	1898
<i>Ninth District.</i> —Hon. L. B. Robinson, Oakland.....	1902
<i>Tenth District.</i> —Hon. J. B. Hungerford, Carroll.....	1900
<i>Eleventh District.</i> —Hon. W. J. Dixon, Sac City.....	1900

OFFICERS OF THE BOARD.

Hon. W. O. McElroy, Newton	<i>Chairman</i>
E. W. Stanton, Ames.....	<i>Secretary</i>
Herman Knapp, Ames	<i>Treasurer</i>
J. F. Cavell, Ames.....	<i>Steward</i>

STANDING COMMITTEES OF THE BOARD.

Finance Committee.—Trustees Dunbar, Smith, Schermerhorn, McElroy and Robinson.

Building Committee.—Trustees Shaw, Saylor, Jones, Hungerford and Stout.

Committee on Agriculture, Horticulture, Experiment Station and Veterinary Science.—Trustees Schermerhorn, Stout, Smith, Dixon and Saylor.

Committee on Steward's Department, Domestic Economy, College Hospital and Sanitary Arrangements.—Trustees Robinson, Shaw, Hungerford and Saylor.

Committee on Engineering Departments and Physics.—Trustees Jones Dunbar and McElroy.

Committee on Faculty and Courses of Study.—Trustees Hungerford, McElroy, Shaw, Stout and Robinson.

Committee on College Lands and Investments.—Trustees Smith, Jones and Dunbar.

Committee on Rules.—Trustees Dixon, Saylor and Schermerhorn.

Committee on Scientific Departments.—Trustees Stout, Hungerford and Schermerhorn.

Committee on Literary Departments and Library.—Trustees Robinson, Shaw and Saylor.

Committee on Public Grounds and Assignment of Rooms.—Trustees Smith, Dunbar and Jones.

Committee on Bonds.—Trustees Dixon and McElroy.

MEMBERSHIP OF THE BOARD.

The terms of office of Hon. J. S. Jones of the Third district, Hon. W. O. McElroy of the Sixth district and Hon. J. H. Wood, of the Ninth district, expired May 1, 1896. The first two were re elected, while Hon. L. B. Robinson was chosen to succeed Mr. Wood. Hon. A. F. Meservey of the Eleventh district, resigned in June, 1896, and the general assembly, at its extra session in the winter following, elected W. J. Dixon to fill the vacancy. No other changes have occurred in the membership of the board during the biennial period.

Members to represent the First, Second, Fourth, and Eighth districts for the term of six years, beginning May 1, 1898, are to be elected by the Twenty-seventh General Assembly. The trustees ask that the legislature make the governor and superintendent of public instruction *ex officio* members of the board.

STATE APPROPRIATIONS.

It is the duty of the board of trustees to direct the expenditures of all the appropriations which the general assembly shall from time to time make to the college. These appropriations are of two classes:

1. Particular appropriations for specific purposes.
2. Annual appropriations.

All appropriations of the first class, except those of the Twenty sixth General Assembly, have been accounted for in previous biennial reports. The appropriations of this assembly were as follows:

Emergency fund for deep well.....	\$ 15,000
Equipment of waterworks, including tower and steel or iron tank.....	21,000
Greenhouse	6,000
Forge shops and foundry with fixtures	5,000
Farm barns	4,000
Sewage disposal system	3,500
Total.....	\$ 54,000

The college was compelled, in the fall of 1895, to close its school year two weeks earlier than usual because of the failure of the water supply. It was evident that provision must be immediately made for a permanent and ample supply of water, and that while such permanent system was being put in a temporary supply, sufficient to meet the needs of the college, must be provided. In this emergency the state executive council, acting under the provisions of section 1, chapter 67, laws of the Seventeenth General Assembly, authorized the trustees to proceed at once with the necessary plans to obtain such supply. Acting under this authority the trustees entered into a

contract with Gray & Bro., of Chicago, to sink a deep well and to put down, in the gravel-bed east of the college, a well or series of wells which should furnish, during the drilling of the deep well, a continuous supply of water of not less than 2,000 gallons per hour, equal in quality to that hitherto obtained by the institution. The order of the executive council, and an abstract of the contract with Gray & Bro., are given on pages 128 and 129 of the last biennial report. Upon the meeting of the legislature, the whole matter was presented to that body and an appropriation asked to meet the expense of sinking the deep well and providing for a temporary water supply; and in addition to construct and equip a waterworks plant of a capacity equal to the present and probable future needs of the college. For the purposes mentioned the total sum of \$36,000 was appropriated, divided as already stated.

DEEP WELL.

The deep well was completed in February, 1897. The amount paid Gray & Bro. under their contract was \$12,730.89, as follows:

For 120 feet with 12-inch casing at \$6.65.....	\$ 798.00
For 209 feet with 10-inch casing at \$5.94.....	1,781.01
For 648 feet with 8-inch casing at \$5.23.....	3,389.04
For 362 feet with 6½-inch casing at \$4.52.....	1,636.24
For 505 feet with 5½-inch casing at \$4.04.....	2,040.20
For 280 feet uncased 5½-inch hole at \$3.88.....	1,086.40
<hr/> 2215 feet.....	<hr/>
	\$ 10,730.89
Temporary water supply	2,000.00
<hr/> Total.....	<hr/>
	\$ 12,730.89

There has been charged to this deep well appropriation the expenses of inspection, testing, express, and other minor charges, together with a portion of the cost of the house over the well, which is to serve as the pumping station. The following is the condition of the account as it stood at the close of the biennial period:

EMERGENCY FUND FOR DEEP WELL.

Amount of appropriation.....	\$ 15,000
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EXPENDED.

Paid Gray & Bro. for sinking deep well.....	\$ 10,730.89
Paid Gray & Bro. for sinking temporary wells and guaranteeing water supply, delivered in college water mains, until completion of deep well.....	2,000.00
Paid Jackson & Moss part of contract for erection of house over deep well.....	1,228.73
Paid Mr. Bontelle for services as assistant superintendent....	25.00

Cost of apparatus and wages of men testing well.....	35.91
Express, messages, and cover for well.....	7.71
Expenses of engineer purchasing pump.....	38.13
<hr/>	
Amount expended.....	\$ 14,066.87
Balance in state treasury reserved by the board for payment on contract for deep well pump.....	933.63
<hr/>	
Total.....	\$ 15,000

A special committee of the board of trustees, consisting of Messrs. Dunbar, McElroy, and Robinson, has had general oversight of the sinking of the well. Under the direction of this committee General Lincoln has served as superintendent of construction. Professor Beyer has taken record of the geological strata; Professor Weems has made analyses of the water, and Professor Marston has tested the capacity of the well. From the reports of these officers to the board the following interesting facts are gathered:

Source of Water Supply.—Professor Beyer states that the well is supplied from the geological formations known as the Saint Peter, the Oneonta, and the Saint Croix. These formations are located as follows:

FORMATION.	EXTENT BELOW SURFACE.	THICKNESS.
Saint Peter.....	1,420—1,490 feet.....	70 feet
Oneonta	1,490—2,100 feet.....	510 feet
Saint Croix (in part).....	2,100—2,215 feet (penetrated)	115 feet

The Saint Peter formation is composed largely of white beach sand. The Oneonta is essentially a massive dolomite bisected by a well-marked sand-bed. This sandstone band, which is about twenty feet thick at Ames, is known by Minnesota geologists as the New Richmond, and is one of the chief water-bearing horizons of that state. The Saint Croix, in central Iowa, can be separated into three fairly well marked divisions—an upper sandstone, a medium series of dolomites and shales, and a lower member which comprises sandstones, marls and shales. The upper two are known as the Jordan sandstones and the St. Lawrence shales, respectively. The college well penetrates the Jordan, which has a thickness of 100 feet, and ends in the St. Lawrence. The Jordan sandstone, with the New Richmond and St. Peter, are the great reservoirs from which the well may draw. Their ability to contribute to the general water supply, according to pumping tests from these horizons, is in the proportion of 15, 4, and 1, respectively.

Permanency of Supply.—Prof. W. H. Norton, of the Iowa Geological survey, in speaking of the water-bearing sandstones which furnish this and the other artesian wells of the

state with water, after estimating the area of supply, says: "As this equals 14,500 square miles, and we have estimated the porosity of the sandstone at 5 per cent, the reservoir sandstones thus contain an amount of water equivalent to a lake the area of Lake Ontario and fifty feet deep. To fill this reservoir, if one-tenth of the rainfall of the region were devoted to this purpose, would require nearly 100 years. To exhaust it by the discharge of the artesian wells of Iowa, estimating their output at 36,000,000 gallons daily, would require over 5,000 years. Limiting our calculation to the outcrop of the reservoir sandstones, we have omitted the scores of thousands of square miles in the Upper Mississippi valley, in which these strata are buried more or less deeply beneath the surface, their porous strata being everywhere waterlogged. The entire storage of artesian water in this field becomes so enormous that it passes beyond ready computation. It represents the accumulation of centuries." "It is thus clear," adds Professor Beyer, "that, if the lower paleozoic sandstone reservoirs should receive no further increment of water from the annual rainfall, the supply, apparently, would remain undiminished for generations to come, even though the demand be increased an hundred fold."

Quality of Water.—The water of the deep well was analyzed by Prof. J. B. Weems, professor of agricultural chemistry in the college. The analysis was conducted with an idea of determining its value from a sanitary point of view, and also its suitability for boiler purposes. The following is the sanitary analysis put in tabulated form by the professor for the purpose of easy comparison with the analyses of water from other representative deep wells of the state:

SANITARY ANALYSIS.

PARTS PER MILLION.	College.	Boone.	Cedar Rapids.	Centerville.	Davenport.	Sioux City.
Free ammonia	1.2	1.4	.862	.978	1.1	1.25
Albuminoid ammonia	Trace	.015	.016	.020	.005	.015
Solids	1258	2047.14	502.9	4132.14	1192.85	1617.14
Nitrogen as nitrites	Trace	None	.8	4.8	None	Trace
Nitrogen as nitrates	Trace	None	.16	None	None	Trace
Oxygen absorbed in 15 minutes . . . . .		.74	1	1.68	.9628	.06
Oxygen absorbed in four hours . . . . .		.74	.8	2.48	.9854	1.85

The professor, after discussing in his report the significance of solids in water, showing that their presence is not necessarily harmful in a sanitary view, remarks: "The amount of free

ammonia found in deep wells is much larger than is found in shallow wells. The determination is only of value when the amount of albuminoid ammonia is large. The amount of albuminoid ammonia present in deep well water is very small, as is shown by the foregoing table."

In classifying water for boiler purposes the professor states that the following limits have been proposed for the amounts of the scale-forming substances:

Very good.....	Less than 8 grains per gallon
Good.....	8 to 15 grains per gallon
Fair.....	15 to 20 grains per gallon
Poor.....	20 to 30 grains per gallon
Bad.....	30 to 40 grains per gallon
Very bad.....	40 grains and over per gallon

His analysis shows the following:

Total amount of scale-forming substances—grains per gallon: Ames, 8.62; Boone, 45.82; Cedar Rapids, 18.03; Centerville, 78.81; Davenport, 4.90; Sioux City, 60.12.

The professor, in summing up the results of his investigation, says: "The samples of water from Davenport and Ames contain the least amounts of scale-forming substances. This fact, taken in connection with the purity of the Ames water as regards organic matter, impresses the fact, when the depth of the well is taken into consideration, that the college has a water supply which ranks among the best in the state as to quality.

Capacity of Well.—Upon the completion of the well its capacity was thoroughly tested. The tests were made under the supervision of Professor Marston. The results, as tabulated by him, are given below:

TIME.	Flow over weir in gallons per hour.	TIME.	Flow over weir in gallons per hour.
<i>February 5, 1897—</i>		<i>February 5, 1897—</i>	
2:20 A. M.....	5500	8:08 A. M.....	5800
2:46 A. M.....	6700	8:10 A. M.....	4900
3:00 A. M.....	6200	8:30 A. M.....	5400
3:15 A. M.....	6200	8:50 A. M.....	5100
3:30 A. M.....	6900	9:10 A. M.....	4600
3:45 A. M.....	6900	9:30 A. M.	5700
4:00 A. M.....	6400	9:50 A. M.....	6000
4:22 A. M.....	6300	10:10 A. M.....	6200
4:44 A. M.....	6400	10:30 A. M.....	5000
5:09 A. M.....	6000	11:40 A. M.....	5000
5:36 A. M.....	6400	12:00 M.	5800
6:10 A. M.....	5800	12:20 P. M.....	5500
6:24 A. M.....	7400	12:40 P. M.....	5200
6:53 A. M.....	6200	1:00 P. M.....	4400
7:20 A. M.....	5800	1:20 P. M.....	4200
7:38 A. M.....	7000	1:40 P. M.....	4400
7:50 A. M.	5400	2:01 P. M.	7000

The professor, in explanation of the table, writes as follows: "During the tests several short stops were made to repair the pump, which was not strong enough for the work, and generally broke or stuck when an attempt was made to speed it up to the full capacity of the well, hence the amount pumped cannot be considered to be in general up to the full capacity of the well. As, however, air was drawn through the cylinder several times during the tests, the higher readings probably represent the capacity fairly well. During the tests the pump cylinder was at a depth of 270 feet below the surface of the ground. Before the tests began the level of the water was determined to be twenty-nine feet below the surface of the ground. After the completion of the tests the water stood twenty-five feet below the surface."

Later tests made by Professor Marston with the new pump would seem to show that the new well can be relied upon to furnish 8,000 gallons per hour. A permanent and ample supply of good water is thus insured to the college.

WATERWORKS

The appropriation for the college waterworks was based on plans and estimates prepared by Professor Marston, the head of the civil engineering department. These plans were afterwards approved by the consulting engineer employed by the board, and the waterworks system was constructed in accordance therewith. The plans for the completed plant contemplated a tower with steel or iron tank, a distribution system, a pumping station, the necessary pumping machinery, and such fire department supplies as would enable the works to furnish, as far as possible, fire protection to the different college buildings.

Bids for the erection of the tower and tank, and the construction of the distribution system, were opened by the board at its meeting in July, 1896. In the matter of the tower and tank, six bids were received which included the tower foundation, three which did not include it, while one firm, Crellin & Lovell of Des Moines, submitted figures for putting in the foundation, conditioned upon receiving contract for erection of tower or construction of distribution system. The bids on the tower and tank without the foundation ran from \$8,838 to \$14,503; the bids on the tower and tank, including the foundation, ran from \$10,793 to \$15,500; the Crellin & Lovell bid on the foundation was \$1,880. It was found by accepting this bid

and the bid of \$8,838 by the King Bridge Co., of Cleveland, Ohio, to erect the tower and tank, the complete structure could be secured for \$10,268, which was less than any of the bids upon the structure as a whole. Contracts were consequently made with these parties upon the basis of their bids. It was afterwards found that each party had included in its bid the anchor-bolts for anchoring the tower to its foundation. The value of these, with certain minor deductions amounting altogether to \$229.58, reduced the amount finally paid Crellin & Lovell on the tower foundation to \$1,150.42. Extras amounting to \$77.92 were allowed the King Bridge Co. The college paid, on account of certain items not included in either contract, such as setting anchor-bolts, putting in inlet pipe foundations, painting tank a third coat and grading around the tower, the sum of \$165.03, thus making the total cost of the tank, tower and foundation, \$10,281.37.

Numerous bids were received on furnishing the material and on constructing the distribution system. The bids of P. J. Egan, of Nebraska City, Neb., and Crellin & Lovell, of Des Moines, covered the material and labor for the completion of the system and were respectively, \$8,559 and \$6,624. The bid of Crellin & Lovell was accepted, such action being necessary in order to secure contract with them for the tower foundation, the gain on which to the college exceeded the excess of their bid over that of Mr. Egan. For extra labor and material furnished by them Crellin & Lovell were afterward allowed the sum of \$250.32. Connecting the deep well with the mains of the general system was not included in their contract. The expense to the college of making these connections was \$104.67. These amounts, added to the contract price, bring the total cost of the distribution system up to \$6,978.99.

The bids on the pumping station and machinery were opened at the meeting of the board in May, 1897. Four bidders submitted figures on the erection of the pumping station, ranging from \$1,330 to \$1,432.95. The contract was let to the lowest bidder, Jackson & Moss, of Des Moines. An agreement was also made with these parties to build the foundations for the pumping machinery and install the same for the sum of \$290, making the total of their contract \$1,620. During the progress of the work an allowance of \$10.64 was made to them because of delay in the arrival of the pumping machinery and \$77.99 for additional labor and material caused by modification of the

original plans. Final settlement with them was not effected until after the close of the biennial period. They had been paid at that time the sum of \$1,275, of which \$1,228.73 was charged to the deep well fund, as already explained, and \$46.27 to the waterworks account. The balance of \$345 due on their contract and the extras allowed, \$88.63, are to be paid from the unexpended balance of the waterworks appropriation.

There were eighteen bids on the pumping machinery. Upon the recommendation of Professor Marston, who had made an exhaustive study of deep well pumps, the proposition of Hen-ion & Hubbell of Chicago, to furnish a continuous flow pump "Cambridge" type, with a Morris Machine works compound engine on the same bed plate, and the necessary drop pipe and rods for \$2,275, was accepted. The pump and engine are guaranteed a capacity of easily lifting 8,000 gallons of water per hour from a depth of at least 300 feet below the surface and delivering it into the elevated tank at a height of 155 feet above the surface. A guarantee of efficiency and durability is also given. The machinery has been installed and a duty test made which has proven eminently satisfactory. Payment of the last half of the contract price is to be made at the expiration of sixty days, conditioned upon the satisfactory working of the pump and engine. Because of delay in delivering machinery a reduction of \$10.64 was made in their contract.

The balance of \$2,264.36, which is yet unpaid, was ordered charged as follows:

To the deep well fund	\$ 933.63
To the waterworks appropriation.....	1,330.73

Fixtures for the pumping station, including steam piping, steam heating, fittings for setting up condenser, and gauges, have been purchased at a cost of \$208.32. It is estimated that \$100 additional will be needed to complete the equipment. The items mentioned, together with the expense bill of Professor Marston in investigating pumps and purchasing machinery, \$38.13, make the total cost of pumping station and fixtures and deep well machinery, \$4,319.44.

Under the direction of the board, Professor Marston secured bids on hose carts, hose, and such hose connections as were necessary to utilize the waterworks plant for fire protection purposes. Eleven bids were submitted: The contract was finally let to the Gutta Percha and Rubber Manufacturing Co. of Chicago to furnish two carts, 500 feet of Maltese Cross brand,

best two and one-half inch rubber hose, four play pipes, and fourteen nozzles for \$671. Tips for hose carts costing \$9 were afterwards purchased. Freight, drayage, and minor items amounted to \$3.05, making total cost of fire department supplies \$683 06.

All other expenditures connected with the construction of the waterworks are clearly set forth in the exhibit which follows. It is the purpose of this exhibit to show the condition of the fund at the close of the biennial period, and, as far as possible, the way in which the balance of the appropriation is to be expended.

WATERWORKS APPROPRIATION.

Amount of appropriation		\$31,000.00
EXPENDITURES.		
Paid King Bridge Co. on contract of \$8,888.00 for erection of tower and tank	\$ 7,552.08	
Paid King Bridge Co , extras	77.92	
Paid Orellin & Lovell, contract price for tower foundation, \$1,380, less deductions as explained amounting to \$229.58.	1,150.42	
Paid for putting in inlet pipe foundation, painting tank third coat and other items as explained.....	163.03	
Total paid on tower.....		\$ 8,945.45
Paid Orellin & Lovell, contract price on distribution system.....	\$ 6,634.00	
Paid Orellin & Lovell, extras as explained	250.82	
Paid for connecting deep well with mains of general system	104.67	
Total cost of distribution system.....		6,978.99
Paid Jackson & Moss on contract for erection of pumping station. \$	46.27	
Paid for pump house fixtures as explained	208.32	
		254.59
Paid for fire department supplies		683.05
Paid consulting engineer's fee		350.00
Paid for preparation of plans and specifications.....		110.13
Paid for surveying.....		75.14
Paid for inspection and testing.....		221.53
Paid for advertising, stationery, postage and messages		59.77
Total expended		\$ 17,678.65
The unexpended balance will be used to meet the following:		
Balance due on King Bridge Co.'s contract		1,335.93
Unpaid on pumping station and machinery:		
Balance of Henion & Hubbell's contract for pump.....	\$ 1,320.73	
Balance due on Jackson & Moss, contract for pumping station.	345.00	
Due Jackson & Moss on extras	88.63	
Bills for pumping station fixtures (partly estimated)	100.00	1,854.36
Minor items, including engineer's expenses for messages, stationery, postage and express		41.31
Inside plumbing to connect college buildings with distribution system—balance		79.76
Total		\$ 21,000.00

Professor Marston designed the waterworks system, and it has been constructed under his direct supervision. It has been commended by the highest engineering authorities, and in its practical workings has proven an efficient and economical system, a credit to the college and to the professional skill and

conscientious public service of its designer. The report of Professor Marston to the board is printed in full under the head of "financial reports." It gives a detailed description of the system, and contains many suggestions regarding the construction of waterworks plants which are of public interest.

The professor, as superintendent, has been assisted by the special committee of the board on waterworks, Trustees McElroy, Jones and Saylor. All expenditures on account of the appropriation have been signed correct by Professor Marston, and afterward approved by Trustee McElroy, before presentation to the board of audit.

GREENHOUSE.

The appropriation asked of the legislature was \$12,000. The amount granted was \$6,000. This necessitated a change in the plans, the strictest economy in construction, and the payment, out of the annual improvement fund, of a portion of the expense of the heating plant. Upon the basis of the new plans, bids were solicited and the same opened at the meeting of the board in July, 1896. The bids were as follows:

Lord & Burnham Co.....	\$4,600.00
Hitchings & Co.....	4,939.20

Lord & Burnham Co. also submitted a proposition to erect the building upon plans which differed but slightly from those of the board, for the sum of \$4,500. This proposition was accepted and contract executed in accordance therewith. The building was constructed under the supervision of a special committee appointed by the board, consisting of Trustees Schermerhorn and Shaw and Professor Budd. It was completed to the satisfaction of this committee and payment made of the contract price. There were no extras and no deductions.

The committee secured bids on heating plant, ranging from \$1,249.20 to \$1,989. The bid of Lord & Burnham Co., which was the lowest, was accepted. The plant was installed and has proven satisfactory. The contract price was ordered charged as follows:

To the greenhouse appropriation.....	\$	843.78
To the annual appropriation for improvements and current expenses.....		405 42
Total	\$	1,249.20

The foundation of the greenhouse was built under contract by L. Hullabarger at a cost, including excavating, of \$585.02. An old potting house belonging to the horticultural department was moved so as to join the greenhouse, and its basement was fitted up to contain the heating plant furnaces. A part of the

expenses was charged to the greenhouse appropriation. The following condensed statement shows how the entire fund was expended:

GREENHOUSE APPROPRIATION.

Amount of appropriation.....	\$ 6,000.00
EXPENDITURES.	
Lord & Burnham Co.'s contract for erection of building.....	4,500.00
Part of Lord & Burnham Co.'s contract for putting in heating plant.....	843.78
Cost of foundation.....	585.02
Part of expense of moving and remodeling potting house addition.....	62.53
Drayage on material... ..	7.85
Messages.....	.80
Total.....	\$ 6,000.00

FORGE SHOP.

The general assembly appropriated for forge shops and foundry with fixtures the sum of \$5,000. It also provided that any sum remaining, after the completion of the other special improvements for which appropriation was made, might be used, so far as necessary, for the shop and fixtures. No additional amount was thus realized, but the erection of the shop was delayed in order that this question might be determined.

Bids were received at the meeting of the board in June, 1897, based upon plans approved by the trustees. The following are the bids:

J. F. Atkinson & Bro., Marshalltown, Iowa.....	\$3,464.00
A. H. Chaffee, Corning, Iowa.....	4,067.00
G. L. Tucker.....	4,550.00
Turner & Duntz, Ames, Iowa.....	4,164.82
Jackson & Moss, Des Moines, Iowa.....	3,479.00

The contract was let to the lowest bidder, J. F. Atkinson & Bro. of Marshalltown. Architect Hallett of Des Moines was employed as supervising architect at a compensation of 2½ per cent of the cost of the building. The following exhibit shows the amount of the appropriation expended prior to the close of the biennial period and the purposes for which the unexpended balance will be used:

FORGE SHOPS AND FOUNDRY WITH FIXTURES

Amount of appropriation	\$ 5,000.00
EXPENDITURES.	
Paid Atkinson & Bro. on contract of \$3,469.00 for erection of building.....	\$ 1,041.04
Paid part of architect's fee.....	85.00
Paid for blower, blast pipe, cupola and other fixtures.....	755.37
Total expended.....	1,881.41
The unexpended part of the appropriation is to be used to meet the following:	
Balance of Atkinson & Bro.'s building contract.....	\$ 2,427.96
Balance of architect's fee.....	51.50

Extras allowed Atkinson & Bro. on contract.....	\$ 54.25
Stock house for coke and coal, benches, cases and other necessary equipment.....	634 88
Total	\$ 8,168.50
Total	\$ 5,000 00

The expenditure of this appropriation is under the charge of the committee on engineering departments, of which Trustees Jones, Dunbar and McElroy are members. Professors Bissell and Marston have acted as local superintendents. All bills before presentation to the board of audit are certified to as correct by Professor Bissell and approved by Trustee Jones.

FARM BARN.

The necessity of repairing the foundation of the farm barn, and thoroughly reconstructing the basement and first story, was presented to the legislature at its last session and an appropriation of \$5,000 asked for this purpose. The amount granted was \$4,000. At the meeting of the board of trustees in May, 1896, the following resolution was adopted:

WHEREAS, The repairing of the old barn cannot be practically done under contract, owing to the uncertain amount of material that may be called for; therefore,

Resolved, That the building committee, in conjunction with the farm committee, proceed at once to accomplish its repair by day's work, under the supervision of a competent man, agreed upon by the committees in charge, the college to purchase all needed material and the work to continue until the appropriation is expended.

In accordance with this resolution a practical carpenter, Mr. T. Thompson, of Ames, was placed in direct charge of the work, while Professor Wilson was appointed superintendent. In his report at the November meeting the professor says: "The repairs on the farm barn have been carried as far as the appropriation will permit. We are now enabled to present to the public our herds in comfortable condition, and care for them with a great saving of labor. There is more work to be done in finishing the south end of the barn. We also require a silo and a root cellar of greater capacity." He then speaks of the necessity of remodeling the upper part of the barn. A portion of these additional improvements have been made by the board and charged to the annual state appropriation; the others are presented to the legislature for consideration. The entire expenditures on account of the fund amount to \$3,996.68, leaving an unexpended balance of \$3.32 in the hands of the state treasurer.

SEWAGE DISPOSAL SYSTEM.

In presenting the needs of the college to the last general assembly President Beardshear called attention to the necessity of adopting some method of disposing of the sewage of the different college buildings. He mentioned the plan of filter beds with tank, automatic discharging apparatus, pipe-line, and necessary connections for utilizing the sewage for fertilizing the low land near the mouth of the sewer. At the first meeting of the board following the regular session of the legislature, the trustees took up the consideration of the best method of disposing of the sewage with the appropriation of \$3,500 which the general assembly had made for that purpose. The matter was referred to a special committee consisting of Trustees McElroy, Saylor, and Stout. This committee reported that they considered the various plans of disposing of sewage by utilizing it for fertilizing purposes as largely experimental, with considerable doubt as to the result. The committee therefore recommended that, in addition to securing bids upon this method of disposal, proposals be asked for putting in the crematory system. Bids were submitted to the board at its July meeting. The lowest bid on the filter bed system was that of Jackson & Moss, of Des Moines, based upon plans and specifications prepared by Professor Marston. Under this bid the professor estimated that the system could be put in operation for \$3,154. The most satisfactory bid on the crematory system was that of the Engle Sanitary and Cremation Co. of Des Moines, to install the necessary plants at the main building and boarding cottages for \$3,300. This, with the cost of building for plant at cottages, \$675, would make the cost of the system complete \$3,975. This bid was modified at a subsequent meeting, by changes in the specifications, so as to bring it within the amount appropriated by the state. The board did not, however, as a whole, feel satisfied with either system. All bids, therefore, were rejected and the committee in charge directed to continue its investigations into the merits of the two systems. Such further investigation having failed to produce an agreement in favor of either system, the board at its meeting in November, 1897, decided to extend and perfect the present college system of sewers. A leading consideration in reaching this conclusion was the successful installation of a waterworks plant which insures an abundant supply of water. The final action of the board is embodied in the following orders:

1. Ordered that the boarding cottages, the college hospital, South hall, and such other buildings as Professor Marston may decide upon be connected with the college sewerage system and that the expense thereof, together with the cost of plumbing and necessary inside fixtures in such buildings, be charged to the state appropriation of \$3,500 for sewage disposal.

2. Ordered that the building committee take up the work as outlined by the board, contract for and execute it, at the earliest possible date.

3. Ordered that the committee on scientific departments be directed to investigate the question of the expenditure of the balance of the state appropriation for sewage disposal, and report to the board.

The expenditures for plans, advertising, and other minor expenses to date, amount to \$44.55.

ANNUAL APPROPRIATIONS.

The following laws, making annual appropriations to the college, were in force at the beginning of the biennial period:

(Chapter 67, Acts of the Eighteenth General Assembly.)

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That there is hereby appropriated to the Iowa Agricultural college, out of any moneys in the treasury not otherwise appropriated, the sums for the purposes herein named, to-wit: * * * for needed repairs upon college buildings and for necessary expenses incurred in the management of college lands, the sum of one thousand dollars (\$1,000) annually, the first payment to be made May 1, 1880, and the same sum annually thereafter.

(Chapter 78, Acts of the Nineteenth General Assembly.)

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That there is hereby appropriated to the Iowa Agricultural college, out of any moneys in the treasury not otherwise appropriated, the sums for the purposes herein named, to-wit:

* * * * *

Ninth.—For experimentation in agriculture and horticulture an annual appropriation of one thousand five hundred dollars (\$1,500).

SEC. 4. That the first payment of the amount appropriated in the ninth item herein be made on May 1, 1882, and the same annually thereafter.

In each of the above appropriations it was provided "that the board of trustees shall take vouchers in duplicate of all moneys expended under this appropriation, one of which shall be filed in the office of the auditor of state."

(Chapter 126, Acts of the Twenty-second General Assembly.)

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That there is hereby appropriated for the Iowa Agricultural college, out of any money in the state treasury not otherwise appropriated, the following sums for the following purposes, to-wit:

Fourth.—For repairing and improvement of college buildings, the sum of one thousand dollars annually, which sum shall be in addition to the present annual appropriation of one thousand dollars, the first payment to be made May 1, 1888, and the same sum annually thereafter.

(Chapter 145, Acts of the Twenty-fifth General Assembly.)

Be it enacted by the General Assembly of the State of Iowa:

SECTION 1. That there is hereby appropriated to the Iowa State Agricultural college, out of money in the state treasury not otherwise appropriated for repairs, general improvements and current expenses, the sum of fifteen thousand dollars annually hereafter; said sum to be paid in quarterly installments on the order of the trustees, the first installment to be payable September 1, 1894.

These several appropriations were consolidated under the new code as follows:

SECTION 2674. *Appropriations.* For the repairs, general improvements and current expenses of the State College of Agriculture and Mechanic Arts, in its several departments and chairs, and in aid of the income fund, the sum of eighteen thousand five hundred dollars is annually appropriated out of any money in the state treasury not otherwise appropriated.

The only balance to the credit of these annual funds at the beginning of the biennial period was \$1,499.99 of the appropriation for experimentation in agriculture and horticulture. This amount, added to the \$3,000 accruing to the fund during the biennial period, gives \$4,499.99 subject to the requisition of the board. By an order of the board of trustees this fund was set aside for the use of the experiment station to be expended for the purposes specified in the law. A separate account is kept, however, with the fund. It shows expenditures to October 1, 1897, amounting to \$3,959.48, leaving an unexpended balance on that date of \$540.51, of which \$8.40 is in the hands of the college treasurer, and \$532.11 in the state treasury. Requisitions have been drawn against this balance, since October 1st, amounting to \$192.91, for which, under the opinion of the attorney-general, the state auditor has no authority to issue warrants. This amount has, therefore, been drawn from the appropriation made by the new code, and appears as an item in the expenditures of that fund.

The following statement shows the amounts drawn from the state treasury on account of the other annual funds and the purposes for which they were expended. If to the amount shown therein as not drawn, \$9.043, there is added the \$532.11 already explained, we have \$9,575.11 as the balance in the state treasury to the credit of the annual appropriations when the new code went into effect.

ANNUAL APPROPRIATIONS.

	Amounts drawn.	Balance not drawn.
Legislative act—		
Chapter 67, Eighteenth General Assembly.....	\$ 978.25	\$ 1,028.75
Chapter 126, Twenty-second General Assembly	910.06	1,089.94
Chapter 145, Twenty-fifth General Assembly.....	23,078.69	6,926.81
Totals under above acts	\$ 24,957.00	\$ 9,045.00
Amount drawn since new code went into effect.....	1,602.09	
Total drawn from state treasury	\$ 26,559.09	

EXPENDITURES.

Blackboards in main building and agricultural hall.....	\$ 110 35
Plastering in college building.....	486.91
Margaret hall—	
Fire closets.....	800.00
Balance due Whiting & Wood on building contract.....	150.00
Paid Gen. Lincoln as superintendent of construction	100.00
Furniture	1,823.85
Bake oven.....	750 23
Elevator	146.06
Putting slate roof on north hall addition and making other repairs on roof	892.82
Fixtures and furniture for domestic economy rooms.....	1,054 86
Fire escape and general repairs.....	263.98
Fitting up old experiment station building for servants' quarters.....	318.84
Main building—	
Remodeling rooms for botanical department.....	410 70
Oiling wood work on third and fourth floors, repairing plastering, calci- mining, repairing roof, painting gutters, repairing ceilings and walls in recitation rooms and basement, purchasing locks and minor repairs....	1,684 40
Creamery—	
Painting dormitory rooms.....	125 00
New flues in boiler, cement floor in cheese room, iron columns to support floor, painting and other repairs.....	1,818.11
Agricultural hall—	
Replastering and general repairs.....	896 28
Laboratory tables, lecture table, cases, fitting up storeroom and mak- ing other improvements in rooms of agricultural chemistry department	467.65
Farm and farm buildings—	
Repairs on farm workman's house	271 15
Repairing farm barns.....	970.19
Repairing farm house.....	1,148.20
Farm fences	250.00
Implement shed	18.00
Water connections	24.60
Greenhouse--	
Part payment on heating plant.....	598 12
Moving and repairing potting house addition.....	183.95
Tearing down old greenhouse.....	10 50
Morrill hall repairs.....	328.50
Chemical laboratory repairs, including remodeling basement, putting in air blast and repairing drain	393 83
Repairs and improvements in department of physics, including remodeling dynamo laboratory, putting in cement floor in basement of west cottage and otherwise fitting up basement for use as a physical laboratory.....	1,078.03
Repairing floors, replacing water pipes, painting exterior wood work and other repairs on veterinary hospital.....	424.71
Electric light improvements, including purchase of a new engine, remodel- ing power plant, and extending lighting system to creamery, agricul- tural hall, experiment barn, and office building	1,913.55
Painting office building, and furniture for guest rooms.....	236.5
Music hall repairs, including plastering, painting, enlarging chimney, and putting in furnace.....	509.44
Engineering hall repairs	555.30

Repair of residence occupied by Mr. McKay and addition to same.....	\$	927.19
Repair of residence occupied by Professor Marston.....		556.40
Repair of residence occupied by Professor Weems.....		306.83
Repair of residence occupied by Professor Franklin.....		219.52
Repair of residences occupied by other professors.....		100.20
Repair of residence occupied by foreman of horticultural department.....		49.00
Library railing and varnishing.....		187.17
College hospital repairs ...		54.25
Extension of waterworks		107.62
Repair of heating and electric light plant.....		323.61
Boarding cottage repairs.....		100.86
Repairing boiler plants at main building and creamery, including purchase of two new boilers.....		1,124.17
Furniture for recitation and other public rooms... ..		243.09
Temporary water supply, including pump and boiler repairs, tanks in main building, and expense of making connections.....		229.50
Repair on boarding house		125.90
Sewer repair and improvements.		199.83
Boiler inspection.....		206.53
Experimentation in agriculture and horticulture.....		492.91
Miscellaneous items, including moving of coal scales, purchase of slate, making plans of new buildings, land department expenses, changes in telephone system, repair of horticultural packing shed, and other minor repairs		171.77
Total expended.....	\$	26,551.58
Balance in hands of college treasurer.....		7.51
Total.....	\$	26,559.09

During the biennial period the college treasurer has been charged with the following sums drawn from the state treasury:

Amount drawn during fiscal year 1896.....	\$	36,912.63
Amount drawn during fiscal year 1897.....		37,233.10
Total.....	\$	74,145.73

The foregoing exhibit shows that he has paid out the following amounts on the accounts given below:

Emergency fund for deep well.....	\$	14,000.37
Waterworks.....		17,678.65
Greenhouse		6,000.00
Forge shops and foundry.....		1,881.41
Farm barns		3,996.68
Sewage disposal system.....		44.55
Annual appropriations	\$	4,452.39
		26,058.67
Total expended.....		874,128.73

This leaves a balance in the hands of the college treasurer of \$16.01.

In drawing these appropriations from the state treasury, the provisions of chapter 31 of the laws of the Twenty-third General Assembly have been strictly obeyed. Money has been drawn only when needed to meet claims awaiting payment. Vouchers are on file giving in detail the expenditures on each appropriation.

The special appropriations for buildings and improvements have, in general, as shown in the foregoing statements, been expended under the contract system. Approved bonds have been required in each case. The bids, contracts, and bonds are on file in the office of the secretary of the board of trustees.

In the expenditure of the annual appropriations the following plan is pursued: The heads of the different departments report to the president, in writing, the repairs and improvements needed in connection with the buildings under their charge and the probable cost of the same. The president transmits these reports to the board with his recommendations, and the matter is then referred to the department committees. After investigation and report by these committees the board passes upon the desirability of making the improvements. If it is considered best to undertake them, they are, in general, referred to the building committee for execution, for further examination and report, or with power to execute, if the state of the fund and the demands upon it make the work advisable. In a few particular cases special committees have been appointed to take charge of improvements ordered. Ordinary emergency repairs are left to the judgment of the building committee.

In the execution of all repairs and improvements, bids are secured and contracts made, whenever the character of the work will permit. The committee in charge generally appoints a local superintendent from among the officers of the college who are available for such service. Such superintendents are held responsible for a careful supervision of the work. They generally serve without extra compensation. Those who have acted in this capacity during the past two years are Professors Marston, Bissell, and Curtiss and Steward Cavell. Bills against the appropriation are approved by the local superintendent and the chairman of the board committee; they are then passed upon by the board of audit.

The building committee, at each meeting of the trustees, reports upon the condition of the fund, the work under way, and the character and amount of the improvements ordered. Among the improvements thus listed are the following, many of which are under contract:

1. Steam heating in boarding cottages.
2. Remodeling steam heating in main building.
3. Remodeling basement of engineering building for hydraulic laboratory.

4. Casing and shelving for museum.
5. Laboratory tables and fixtures for department of entomology.
6. Cases for botanical rooms.
7. Utensil lockers for dairy department.
8. Apparatus cases for department of physics.
9. Connecting veterinary hospital with the waterworks system.
10. Painting outside walls of greenhouse and roof of potting-house addition.
11. Painting interior and exterior woodwork of physical and chemical building.
12. Sinks for junior room in chemical laboratory.
13. Water connections for physical and chemical building.
14. Painting farmhouse and two farm cottages.
15. Fitting up rooms in third floor of agricultural hall for pathological and histological laboratory.
16. Chapel tower to contain clock and bells.
17. Fitting up room in engineering building for pipe fittings and tools.
18. Boiler for power station.
19. Extension of electric light system to music hall, college hospital and other buildings.
20. Enlargement and improvement of bath rooms in main college building.
21. Repairing roof of college hospital.
22. Painting outside of creamery building.
23. Calcimining boarding cottages and dormitory rooms in creamery.
24. Painting walls and oiling floors of domestic economy rooms.
25. Painting interior and exterior woodwork of Margaret hall.
26. Painting outside of main college barn.
27. Blackboards for mathematical recitation room.
28. Fitting up room for armory.
29. Repairing ice house.
30. Repairing roof of music hall.
31. Repairing roof and inside repairs of main barn.
32. Addition to kitchen and storeroom of boarding house.
33. Wainscoting and hard pine floor in botanical rooms.
34. Repairing creamery lecture room, freshman recitation room and north end of upper hall of main building.

35. Furnishings for domestic economy rooms and recitation rooms used by Pythian and Philomathean societies.

36. Fitting up room in creamery for instruction in pasteurization and sterilization of milk.

37. Painting galvanized iron work on Margaret hall and power station.

The repairs and improvements ordered will exhaust the unexpended balance of the annual appropriation and the payments which will accrue to its credit in the reasonable future. There is, moreover, an urgent necessity for the employment of a portion of this fund to help in maintaining the college plant. The entire national support fund is needed for instruction, apparatus and department collections.

The board at its annual meeting in November, after scaling the department askings as much as it considered could be done without serious injury, was obliged to pass an order reserving \$2,000 of the annual fund to cover in part the expenses of caring for the public rooms, thus relieving the national support fund to that extent. With the growth of the institution the necessity of using the fund to meet the current expenses of maintaining the plant will increase. That the national government considers such expenses should be borne by the state is made clear by its rulings regarding the use of the Morrill support fund. It is held by the department at Washington that the language of the law authorizes the purchase from this fund of apparatus, machinery, stock, and material for instruction. It is further held that "It should not be expended for heating or lighting buildings, repairs, improvements, cases, shelving, or janitor service." The annual fund was asked of the legislature with the end in view of meeting this class of expenses. It will do this if it is rightly supplemented with needed appropriations for special purposes. The trustees ask of the present general assembly appropriations for the following:

Carpenter shops	\$	8,000
Purchase of books for library.....		15,000
Horse barn and silo.....		7,500
Chair of pedagogy		4,000
Residence for president.....		3,000
Farm improvements:		
1. Extension of main barn for implement, tool, and instruction room....		600
2. Sheep barn.....		1,000
3. Fencing and tiling		1,500
Agricultural hall museum fittings and equipment....		1,000
Mining engineering laboratory and equipment.....		1,000
General telephone and public grounds electric light system.....		1,000
Farm dairy room.....		875
Total.....	\$	44,475

ENDOWMENT FUND.

As shown by the report of the secretary the college endowment amounts to \$381,033.52. Under the wise management of the legislature and the successive boards of trustees it has increased since 1868 by the sum of \$192,975.92. The original endowment was in the shape of land aggregating in round numbers 204,000 acres. The general assembly directed that the land should be appraised and leased on ten-year contracts, with the right of purchase at the expiration of the lease. Many lessees availed themselves of this privilege; a considerable number of leases have been renewed from time to time as they expired, and not a few, especially in the earlier years, were forfeited for non-payment of rental. It was through the reappraisement of land restored to the college under these forfeited leases, together with the transfer and investment of accumulated interest money, that the increase in the endowment fund was effected. It is to the credit of both the state and the college that this fund, which originally was exceeded in amount by that of nineteen states, is to-day in its productiveness second only to that of New York. The fund has, however, probably reached its maximum limit, as the leases now in force are too valuable to be allowed to go to forfeiture, and the expenses of the college press too closely upon its income to permit any further transfer of interest money. No change in the amount of the fund has taken place during the last biennial period. The fund as to its origin is to be credited as follows:

Congressional land grant.....	\$5 91,354.01
Accumulated interest fund.....	89,679.51
Total.....	\$ 681,033.52

The accumulated interest portion of the fund, as already stated, is due to the transfer and investment of interest money. Investments of this fund have been made in land and farm mortgages. In 1868 there was purchased with the amount then on hand 15,013.17 acres of land, located in the northwestern part of the state, at a cost of \$15,926.55. This land was appraised and leased under the same plan as the congressional grant and has yielded each year an income of 8 per cent on its appraised value. The account with the principal stands as follows:

Land sold.....	\$ 42,080.00
Land under lease.....	5,999.51
Total.....	\$ 48,079.51

The balance of the fund is accounted for by direct transfers of interest money, the last of which was made in 1891.

The secretary's report shows the following as the present condition of the endowment fund as a whole:

Invested in farm mortgages.....	\$ 592,973.63
Invested in land under lease....	56,410.00
Cash balance awaiting investment	31,649.89
Total.....	\$ 681,033.52

In regard to its management, the fund is divided as follows:

Under the direct control of the board two tracts of land obtained by foreclosure of mortgages	\$ 3,618.55
Under the control of Agent Knapp, the land of the original grant and the accumulated interest fund.....	136,471.45
Under the control of the financial agent, W. A. Helsell, the balance of the fund.....	540,943.52
Total.....	\$ 681,033.52

The original law establishing the financial agency provided simply for the investment by the financial agent of the proceeds of the congressional grant. As there was some question under the law as to whether his bond would cover loans of accumulated interest which might be made by him, a separate agency was established to handle this part of the endowment. The new code removes all objection to the loaning of the entire fund by the financial agent, and as experience has shown that it can best be handled through the machinery of that agency the board of trustees at its last meeting ordered that the two parts of the endowment be permanently consolidated and that all accumulated interest, as it shall be paid in from outstanding loans and leases, be remitted to the state treasurer, subject to the draft of the financial agent for loaning purposes.

Only a small part of the original endowment remains in the form of land. As the leases expire the principal will be paid and the land agency closed out. Thus in the near future the financial agency will come into the management of the entire endowment fund. It is, therefore, with no small degree of satisfaction that the college faces the fact that this method of handling the fund has proven eminently satisfactory. In 1888 Senator Allison secured the passage by congress of an act permitting Iowa to invest this fund in farm mortgages instead of "stocks of the United States, or of the states, or of some other safe stocks." In the discussion by the general assembly of the bill giving effect to this congressional enactment, doubts were expressed by the leading members of both houses as to the safety of this way of handling the fund. The most careful consideration was given to the proposed law, and upon the recommendation of the judiciary committee of the senate the original

bill was changed in many important particulars. The measure as finally adopted has met every expectation of its advocates. The agency was established in 1884. It has made loans amounting to \$886,425.80, of which \$511,923.63 are now in force. Only two mortgages have been foreclosed during the thirteen years, and these resulted in the financial benefit of the college. On November 1, 1897, the unpaid interest, which had been delinquent for more than a month, amounted to \$1,543.60, of which more than one-half has since been paid.

Loans are made for a term of five or ten years at 7 per cent interest. After five years from date of maturity of first interest coupon, payments on the principal, of \$100 or any multiple thereof, are allowed at such times as interest matures. The borrower is also allowed to pay the principal at any time by paying in addition thereto 2 per cent per annum for the unexpired term until optional right of payment accrues. At the late meeting of the board 6 per cent loans were authorized running for eight years without optional payments. Under the law the value of the land, exclusive of the buildings, must be at least double the amount of the loan which it secures. The forms of notes, bonds, mortgages, interest coupons, and other papers are determined by the attorney-general under the direction of the executive council. The machinery of registering the loans, handling the completed papers, and collecting the interest and principal is set forth fully in the report of the secretary found under "financial reports."

The national law provides that all the expenses of the management of the endowment fund "shall be paid by the state out of the treasury of the state." The new code limits the compensation of the financial agent to be fixed by the board of trustees, to "twelve hundred dollars annually and eight hundred dollars annually in addition for assistants and sub-agents and all necessary expenses connected with the discharge of his duties." The appointment of the agent is subject to the approval of the executive council. It is provided in his contract with the trustees that he may draw the endowment fund from the state treasury from time to time as needed, upon drafts countersigned by the secretary of the board, but that at no one time shall he have in his possession or under his control more than \$10,000. He gives a bond of \$50,000, under which he is responsible for the money coming into his hands and for the faithful performance of the duties of his agency, his contract containing the following stringent provisions:

He shall exercise care and diligence in making such loans, or selecting or retaining anyone to assist him in preparing abstracts of title, and if in the doing of any act in any way connected with said loans, any sum of money is lost or expense incurred, through his wilful or negligent acts or the wilful or negligent acts of his sub-agents, the said Helsell shall be fully liable to said trustees.

And the said agent shall also be liable for any want of diligence in making said loans; and for all moneys lying and being in his hands for an unreasonable time, or for any time where, by diligence or proper effort, the same might or could have been loaned, the said agent shall be liable for interest thereon at the rate of 7 per cent per annum.

The loans made since 1890 by the two loan agencies, now consolidated, aggregate \$655,100.80, or an average each year of \$81,887.60. This does not include the extensions granted. As the rate of interest declines it is reasonable to suppose that many of the outstanding loans will be paid. By the close of 1898 the right of payment under the optional clause will have accrued on loans amounting to about \$250,000. It must be noted also that the loanable funds of the agency will be increased by the proceeds of the land department as land leases expire. The amount awaiting investment at the end of the biennial period, as stated, was \$31,649.89.

The foregoing figures show the magnitude of the work of the agency, the importance of the interests involved, and the safe and profitable way in which, through its machinery, the endowment fund has been handled. The history of the management of the fund is submitted with confidence to the judgment of the general assembly.

THE NATIONAL SUPPORT FUND.

The national support fund consists of the income from the endowment of the college and the annual payments under the Morrill act of 1890. The additional annual fund for the maintenance of the experiment station can be used only for this purpose, and is therefore treated by itself in another part of this biennial report. A summary of the secretary's account with the educational support fund shows the following:

Cash in treasurer's hands at the beginning of the biennial period—

Interest fund.....	\$	99.84	
Morrill fund.....		14,370.86	
Total			\$ 14,470.70
Income from endowment fund, 1896 ..	\$	46,596.06	
Income from Morrill fund, 1896		22,000.00	
Total			68,596.06
Income from endowment fund, 1897.....	\$	47,729.75	
Income from Morrill fund, 1897.....		23,000.00	
Total			70,729.75
Grand total			\$ 153,796.50

The expenditures during the biennial period are as follows:

Expended in 1896 as per exhibit A attached to secretary's report	\$ 66,799.29	
Expended in 1897 as per exhibit B attached to secretary's report	66,079.71	
Total	\$ 132,879.00	
Balance	20,917.50	
Grand total	\$ 153,796.50	
Represented by cash—		
In college treasurer's hands	\$ 12,917.50	
In state treasurer's hands	8,000.00	
Total		20,917.50

The receipts from the endowment fund during the last year have been above the normal because of the payment, under the improved financial conditions, of interest which had become delinquent. The balance given, which is largely to the credit of the Morrill support part of the fund, is to cover expenses on that account until the end of the government fiscal year, June 30, 1898.

The estimated income from the national support funds for the coming year is \$69,000. The appropriations made by the board of trustees for salaries and department purposes are as follows:

FROM THE NATIONAL SUPPORT FUND.

For salaries as per list under "officers of instruction"—		
From interest fund.....	\$ 12,850.00	
From Morrill fund	21,850.00	\$ 34,700.00
Agricultural department—		
Current expenses	\$ 1,300.00	
Foreman	600.00	
Class expenses.....	200.00	2,100.00
Creamery—		
Current expenses.....		300.00
Dairy—		
Salary of Mr. McKay.....	\$ 1,200.00	
Assistant.....	200.00	
Winter dairy school.....	150.00	1,550.00
Horticultural department—		
Current expenses and experimentation	\$ 800.00	
Heating and stocking greenhouse.....	400.00	
Assistants	400.00	1,600.00
Veterinary department—		
House surgeon.....	\$ 200.00	
Current expenses and apparatus.....	350.00	550.00
Pathological department—		
Current expenses and apparatus		75.00
Civil engineering department—		
Assistant	\$ 300.00	
Current expenses and equipment.....	823.15	1,123.15
Mechanical engineering department—		
Assistants	\$ 2,100.00	
Current expenses and equipment	1,300.00	4,400.00

Physics and electrical engineering—		
Assistants	\$ 900.00	
General expenses and apparatus.....	1,059.10	\$ 1,959.10
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Mining engineering.....		100.00
Military tactics—		
Current expenses.....	\$ 200.00	
Flags	30.00	230.00
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Agricultural chemistry—		
Assistant, current expenses, and apparatus		500.00
Department of chemistry—		
Assistants.....	\$ 650.00	
	800.00	\$ 950.00
Current expenses and apparatus.....	800.00	1,550 00
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Entomology and zoology—		
Current expenses, mounting specimens, zoological collection and department apparatus	\$ 700.00	
Exchange of typewriter.....	65.00	765.00
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Botany—		
Assistants.....	\$ 350.00	
Current expenses and apparatus.....	428.91	
Heating office room	25.00	803 91
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Mathematics and secretary's office—		
Assistants and clerk hire.....		1,450 00
Political economy.....		100.00
Domestic economy—		
Current expenses	\$ 350.00	
Furnishings for room.....	50.00	400.00
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Department of music—		
Salary of director	\$ 400.00	
Instrumental music at public exercises	100.00	
Current expenses	40.00	
Music for Sabbath services.....	50.00	590.00
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Library—		
Librarian	\$ 600.00	
Assistant librarian	350.00	
Expenses, books and periodicals.....	1,800.00	2,750.00
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Sabbath services.....		450.00
Public grounds.....		1,800.00
Public rooms—		
Furniture	\$ 450.00	
Heating, lighting and janitor service. ●.....	2,700.00	3,150.00
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Contingent expense—		
Private secretary for president's office.....	\$ 635.00	
Catalogues, printing, stationery and advertising	2,750.00	
Extra fund for advertising	1,000.00	
Advertising in Student	50.00	
Junior Annual, advertising for 1898, the Annual to contain nothing not approved by the president.....	50.00	
Telephone service.....	80.00	
Ringin bell for recitations	75.00	
Mail service	270 00	
Proctors.....	400.00	
Preceptress fund	150.00	
Address before college and trustees	100.00	
Pumping pipe organ	25.00	
Olerks for treasurer's office \$900.00 (paid from steward's depart- ment \$600.00) ...	300.00	
Annual fee for Agricultural college associations.....	10 00	
Fund for attending teachers' institutes and associations		

(Intended for president and professors authorized by president to attend such meetings).....			\$	70.00	
Emergency fund				150.00	
Department of English literature and history.....				50.00	
Commencement write-up.....				20.00	
Music books for chapel.....				100.00	
Dictionaries for office use.....				25.00	
Physical culture for ladies.....				125.00	
Stenographer for commencement.....				14.23	
Piano trucks.....				25.00	\$ 6,494.22
Grand Total.....					\$ 69,490.28

In addition to the above there was appropriated to the different departments the proceeds of the ordinary sales made during the year.

It will be noticed that the appropriations exceed the estimated income from the national support fund. Other appropriations will need to be made during the year. It was to meet this excess that the board reserved, as already explained, the sum of \$2,000 from the annual appropriation by the state, to cover, if necessary, that much of the current expense of maintaining the college plant.

An analysis of the appropriations will show the following classes of expenses:

Salaries charged to salary account.....	\$34,700	
Salaries of assistants charged to departments.....	11,150	
		\$ 45,850.00
General expenses of the college		9,614.22
Current expenses of departments		8,446.16
Furniture for public rooms		450.00
Total for salaries and current expenses		\$64,360.38
Additions to department collections and apparatus		5,100.00
Total.		\$69,460.38

The foregoing figures develop the fact that the institution, with its present income, is able to add but slowly to its permanent facilities for instruction. • It ought to grow much more rapidly in this direction.

The following are the more important of the regulations of the board of trustees governing the expenditure of these appropriations:

1. Appropriations to the departments are expended by the officer in charge, acting under the general direction of the president of the college. Approved bills for such expenditures are presented to the board of audit, which board is directed not to allow any bill unless the same shall contain the date at which the goods were purchased or the service rendered, and such full and itemized statement of the subject matter as will furnish the board of audit and the board of trustees sufficient grounds for determining the propriety of allowing or disallowing the claim. The bill, when audited, is paid by the college treasurer, and the receipted bill is filed as his voucher.

2. The head of each department is required to keep a current and accurate memorandum of all appropriations to his department, and of all orders which he may issue against the same. It is directed that no obligation shall be incurred in excess of such appropriation. If such case occurs, the secretary is required to submit a list of the excess bills, and the payment of the same is forbidden unless the department has outstanding collections, in which case said collections, as paid in, can be applied upon the bills. For the balance, the head of the department is held personally responsible. In no case is the board of audit allowed to audit bills in excess of the appropriation to the department.

3. All departments employing labor are required to keep a permanent and itemized book account of dates of all services, character of service, and hours employed each day, to be open on call to the inspection of the board of audit.

4. Departments deal with each other as with outside parties, except that the bills of one department against another are treated as preferred claims against the appropriation to that department. In case any head of a department, receiving a bill against his department in favor of another department of the college, fails to present the same to the board of audit within five days after written notice of such bill has been given him by the treasurer, the treasurer shall consider such bill approved. He shall thereupon make indorsement to this effect upon the bill and submit the indorsed bill to the auditing board for audit in the usual way.

5. The head of each department is directed, at the time of filing his annual financial statement, to file an inventory with the secretary of all apparatus, books, stock, feed, machinery, or other articles belonging to the college in this department.

6. It is the duty of the standing committees of the board to investigate the needs of the departments under their charge, consider and report upon appropriations recommended by the president, and supervise their expenditure as they deem best. At the close of the year each committee is required to examine the vouchers, inventories, and accounts of the department under its charge, inquire fully into the amount and character of expenditure of each and make such report thereon as shall give the board full information concerning the financial management of the respective departments.

OFFICERS OF INSTRUCTION.

The last biennial report contains a list of the officers of instruction for 1896 with their salaries. A vacancy arising in the chair of domestic economy, the faculty committee and the president of the college were authorized to fill the same. They employed Miss Gertrude Coburn of Kansas City, Kan., at a salary of \$1,200. She was formally elected by the board at its meeting in May, 1896.

Miss Marie Chambers having been relieved, at her own request, of the work of instruction in elocution, Mr. A. M. Newens of Des Moines, was elected to the vacancy. His salary was fixed at \$600, his term of service to begin March 1, 1896. Miss Chambers' resignation as director of music was presented to the board at its May meeting. Upon the recommendation of

President Beardshear, Mr. F. J. Resler, of Mount Vernon, Ohio, was chosen to succeed her. He was allowed to appoint the instructor in instrumental music subject to the approval of the president. The salary of Miss Ford, professor of French and German, was increased for the school year of 1896, from \$900 to \$1,000. She resigned in August of that year to accept a position in the schools of Minneapolis. Miss Lizzie M. Allis was elected to the vacancy at the same salary paid Miss Ford. No other changes in the list of instructors occurred during 1896.

In February, 1897, Prof. James Wilson, having accepted the position of secretary of agriculture in the cabinet of President-elect McKinley, tendered his resignation as professor of agriculture and director of the experiment station. The resignation was not accepted, but the professor was given an indefinite leave of absence without salary. The following resolutions were adopted by unanimous vote:

WHEREAS, The Hon. James Wilson, professor of agriculture and director of the experiment station of this college, has been called to fill the honorable and important position of secretary of agriculture in the cabinet of President McKinley;

Resolved, That the board of trustees of the Iowa State College of Agriculture and Mechanic Arts express their appreciation of the valuable services rendered the college by Professor Wilson during his years of connection with the institution, and the high standing his personal popularity and known merits as a man of character and agriculturist of practical and common sense ideas have given to this college among the farming classes and all interested in progressive and industrial education in Iowa.

Resolved, That we commend the wisdom of President McKinley in calling Professor Wilson to the broader field where his experience as a man of affairs and judgment of men and policies may be helpful in the administration of government, and where his knowledge of agriculture from a scientific and practical standpoint may contribute to the material and educational upbuilding of the agricultural interests of the country.

Resolved, That while we deeply feel the loss entailed to this institution by his withdrawal for the time being from active service as a member of its faculty we congratulate the president in the choice of so wise a counselor, and the country in securing the services of so capable a public servant.

Prof. Charles F. Curtiss was advanced to the work left vacant, during the absence of Professor Wilson, under the title of professor of agriculture and director in charge of the experiment station. Later in the year Professor Wilson was given the title of "dean of the agricultural faculty," while the title of Professor Curtiss was changed to professor of agriculture and director of the experiment station. The salary of Professor Curtiss was fixed at \$2,000 and the use of the farm house; \$605

of his salary was ordered charged to the Morrill support fund and the balance to the experiment station. He was given two assistants at a salary of \$600 each, the aggregate salary to be divided equally between the Morrill and the station funds. Mr. J. W. Wilson was appointed as one assistant, while temporary arrangements were made regarding the other. At the May meeting James Atkinson, who had been connected with the Agricultural college at Guelph, Canada, was elected as the second assistant at a salary of \$800, the extra \$200 to be charged to the station account.

At this May meeting, Miss Flora Wilson resigned as college librarian. Miss Vina Clark was elected for the remainder of the year, at the expiration of which time, having rendered satisfactory service, she was re-elected, to serve as other officers. Her salary was fixed at \$600. Miss Effie Curtiss, assistant librarian, having resigned in May, Miss Edith Foster was appointed to that position. At the close of the year her salary was advanced to \$350.

In June, 1897, Prof. W. S. Franklin, professor of physics and electrical engineering, under the inducement of a larger salary and a wider field of usefulness in a similar position in Lehigh university, tendered his resignation. An arrangement was made with the professor under which he consented to continue at the head of the department until September 1st, and in the meantime, by conducting classes during the summer vacation, to finish up the work of the senior class in electrical engineering. Mr. L. B. Spinney, the assistant professor of physics, was selected to fill the vacancy. He was voted \$150 additional compensation for the remainder of the year while his salary, beginning with March 1, 1898, was fixed at \$1,500 per annum. He was allowed an assistant for the remainder of the year, and in making arrangements for 1898 was granted an assistant's fund of \$900, with which to employ two assistants if he thought best. The house formerly occupied by Professor Franklin was assigned to Professor Bissell.

At the annual meeting of the board in November last the salary of Professor Beyer, assistant professor of geology, was increased from \$1,200 to \$1,300. The professor was away from the college during the last half of the year on leave of absence to study in Europe. The expense of employing other parties to instruct his classes was borne by the professor.

The resignation of Mr. J. W. Wilson, to take effect November 15th, was presented and accepted. Mr. John A. Craig, who had won an enviable reputation in connection with the agricultural department of the Wisconsin university, was elected professor of animal husbandry at a salary of \$1,800, thus greatly strengthening the agricultural side of the college.

With the changes mentioned the salary roll for the school year of 1898 will stand as follows:

SALARIES FOR 1898.

W. M. Beardshear, A. M., LL. D.....	\$ 3,850
President.	
Psychology and ethics.	
M. Stalker, M. Sc., V. S	1,000
Veterinary science.	
Station veterinarian.	
J. L. Budd, M. H.....	2,000
Horticulture.	
Station horticulturist.	
E. W. Stanton, M. Sc.....	2,200
Mathematics and economic science.	
Secretary board of trustees.	
General James Rush Lincoln.....	1,800
Military science and tactics.	
Mining engineering.	
Alfred A. Bennett, M. Sc..	1,000
Chemistry.	
Herbert Osborn, M. Sc.....	1,000
Zoology and entomology.	
Station entomologist.	
W. H. Wynn, Ph. D., D. D.....	1,800
English literature and history.	
L. H. Pammel, B. Agr.....	1,800
Botany.	
Station botanist.	
Miss Gertrude Coburn, B. Sc.....	1,200
Domestic economy.	
O. F. Curtiss, B. Agr.....	2,000
Agriculture.	
Director of experiment station.	
J. B. Weems, Ph. D	1,000
Agricultural chemistry.	
Station chemist.	
Miss Margaret Doolittle, A. B.....	900
English, Latin, and rhetoric.	
L. B. Spinney, B. M. E., M. Sc	1,500
Physics and electrical engineering.	
G. W. Bissell, M. E	1,000
Mechanical engineering.	
A. Marston, C. E.....	1,000
Civil engineering.	
Miss Lizzie May Allis, B. A., M. A.....	1,000
French and German.	
Mrs. Sally S. Smith, B. S.....	750
Preceptress.	
W. E. Harriman, B. S., M. D.....	1,000
Pathology, histology, and therapeutics (\$1,000).	
College physician, \$300 paid from hospital fees charged students.	
W. B. Niles, D. V. M.....	1,700

Veterinary science.	
W. H. Meeker, M. E.....	\$ 1,400
Mechanical engineering.	
A. M. Newens.....	800
Elocution and English.	
S. W. Beyer, B. S., Ph. D.....	1,800
Geology and zoology.	
John A. Craig, B. S. A.....	1,800
Animal husbandry.	
James Atkinson, B. S. A.....	800
Assistant in station.	
Herman Knapp, B. S. A.....	1,100
College treasurer and recorder \$850.	
Station treasurer \$250.	
Total.....	\$ 40,300

Houses on the college grounds are occupied by Professors Bennett, Osborn, Curtiss, Marston, Bissell, Weems, and Stanton. The inside repair of these houses is chargeable to the occupant. Their annual rental value is considered by the board to be equivalent to \$200. Aside from house rent no perquisites are allowed, the rule of the board in this regard reading as follows:

No professor, instructor, assistant, or any employe of this college shall have or enjoy over and above his or her regular salary any extras or perquisites of any kind whatever either directly or indirectly.

All bills in favor of salaried officers, other than regular salary payments, are passed upon by the board in session. No leave of absence is granted to any officer under pay unless satisfactory arrangements are made by him for the performance of his duties without extra cost to the college.

The salaries included in the salary list are chargeable, under the order of the board, to the following funds:

Morrill fund.....	\$ 21,850
Interest fund	12,850
Experiment station fund.....	5,600
Total.....	\$ 40,300

No other charges are made against the Morrill fund, it thus being used entirely for the purposes of instruction. The charge against the experiment station is considered to be the equivalent of service rendered. It includes \$1,350 of the salary of Director Curtiss; \$900 each of the salaries of Professors Weems and Craig; \$300 each of the salaries of Professors Budd, Pammel, and Osborn; \$500 of the salary of Dr. Niles; \$800, or all of the salary of Mr. Atkinson; and \$250 of the salary of Treasurer Knapp.

COLLEGE TREASURER.

The college treasurer is elected annually. His duties are manifold. He receives and receipts for all moneys arising from

the income of the endowment fund, appropriations of the general assembly, sales of the products of the farm, creamery, experiment station, and other departments, payments by students of room rent, hospital and laboratory fees, board, fires, lights, and other charges, and for money arising from all other sources. He pays out the same on bills properly audited, retaining the receipted bill as his voucher. He keeps a complete set of double-entry books, in which an account is kept with each department in such a way as to show in full its receipts and expenditures. He keeps the cash reports and vouchers for the different departments independent of each other so that any party interested can examine the accounts of a single department without confusing them with those of any other. The treasurer makes out bills against parties owing the departments, collects the same, and makes cash reports which are verified by the heads of the departments on whose accounts the collections are made. He checks his books monthly with those of the board of audit, and makes settlement with the board of trustees at the close of each fiscal year. The station account is checked annually with the government inspector. Annual reports of the Morrill support fund are made to the department of the interior, and of the experiment station account to the department of agriculture. Annual reports are made to the board of trustees and a biennial report to the governor of the state.

The treasurer receives deposits of students and pays checks against the same. The deposits last year numbered 1,700 and the checks cashed 3,105. The receipts issued on all other accounts exceeded 10,500 and the vouchers for the year numbered 5,010, some of which, being pay-rolls, involved payments to several parties, rising, in the case of the creamery accounts, to 150 different persons on a single voucher.

The treasurer, Mr. Herman Knapp, has also acted as land and loan agent, having charge of the renting of endowment fund land and the loaning of the accumulated interest fund. In this capacity he has given much time to the making of leases and loans and the collecting of principal and interest, all of which he has reported to the secretary of the board, turning over the cash collected to the state and college treasurers.

The treasurer has supervision of the college book department, making all orders for books and stationery sold students, receiving and settling for express, and arranging for and over-

seeing the distribution of the student and department mail. As recorder he makes record of the class standing of each student, reporting the same at the beginning of each term to the student, and furnishing to the president and faculty the information upon which undergraduate classification and the right to graduation are determined.

The heavy burden of work in the treasurer's office, was one, though not the most important, consideration leading the board to transfer to the financial agency the loaning of the accumulated interest part of the college endowment.

The methods of testing the accuracy of the treasurer's accounts are discussed in detail in the report of the secretary. The following are worthy of special mention:

1. The close watch kept upon each department account by the officer in charge, who is interested in realizing for his department the full benefit of the appropriation made for its use.

2. The examination made each year by the government inspector.

3. The comparison after each monthly trial-balance of the treasurer's books with those of the secretary. This in itself would detect any errors.

4. The annual examination and settlement with the treasurer made by special committee of the board of trustees.

This special committee in 1896 was composed of Trustees Dunbar and Smith, who reported that they had carefully examined and compared the receipts and vouchers with the debit and credit side of the treasurer's cash account and found the same correct. They added, "We found the books in clean and splendid condition, and we cheerfully certify that Treasurer Knapp has performed his duties to the complete satisfaction of your committee." The cash balance shown was counted and found correct.

Trustees Dixon, Hungerford, Robinson and Smith constituted the special committee making the settlement in 1897. The following is their report:

To the Board of Trustees of the Iowa State College:

Your committee appointed to make settlement with the treasurer respectfully report that they have examined the duplicate receipts for money received by him, checked his vouchers with his account, tested his balances, and are pleased to report that his accounts are correct.

Your committee finds the treasurer properly charged with the sum of \$20,919.25, divided among the different accounts as follows:

General accounts.....	\$ 18,858.23
Steward's funds.....	1,114.86
Laboratory fees.....	4.50
Students' deposits.....	2,940.16
Balance due on collections.....	1.50
Total	\$ 20,919.25

Respectfully submitted,

W. J. DIXON,
J. B. HUNGERFORD,
L. B. ROBINSON,
HAMILTON SMITH.

The report was entered on the records and the committee continued to determine balances and count cash at time of filing new bond. This duty was performed by the chairman of the committee, Mr. Dixon, who, upon the authority of the board, certified to the secretary of state that the treasurer had produced and accounted for all the money and property chargeable to his account.

Mr. Knapp was elected treasurer for the ensuing year. His bond, the amount of which was fixed by the board at \$50,000, has been filed with the secretary of state and approved by him. The salary of Mr. Knapp, guaranteed by the board, is \$1,500, payable from the following sources:

Steward's department.....	\$ 100
Book department.....	150
Experiment station.....	250
Land department fees.....	150
Interest fund.....	850
Total.....	\$ 1,500

He is allowed \$900 as office clerk hire, of which \$600 is for keeping the books of the steward's department and is paid from the income derived from the students. The entire cost of his office to the college funds proper is \$1,550.

EXPERIMENT STATION.

In 1887 congress passed an act establishing experiment stations in connection with agricultural colleges. An annual appropriation of \$15,000 was made to each college for their support. The use of the fund is limited under the most stringent provisions to such experiments as bear directly upon the agricultural industry. Each station is inspected annually by a government inspector to the end that it may be held to an exact compliance with the law. It is only incidentally that the station helps the educational work of the college. The annual appropriation for its maintenance is therefore treated separately from the educational support funds. As in the case of the

other departments the income from the sale of products is added to the appropriation. The account with the station for the biennial period shows the following receipts and disbursements:

RECEIPTS.

Cash on hand at the beginning of the year 1896.....	\$	313.95
Congressional appropriation for 1896.....	\$	15,000.00
Sale of products.....		3,208.03
Total.....		18,308.03
Congressional appropriation for 1897.....	\$	15,000.00
Sale of products.....		3,208.26
Total.....		18,208.26
Total..	\$	36,825.24

DISBURSEMENTS.

Expenditures during fiscal year 1896.....	17,306.23
Expenditures during fiscal year 1897.	19,407.15
Total disbursements.....	\$ 36,803.43
Balance on hand at the close of the biennial period.....	21.81
Total..	\$ 36,825.24

The inventory of station property amounted to \$3,553.10. In addition to the congressional appropriation the board has for the last few years set aside for the use of the station the annual appropriation of \$1,500 for experimentation in agriculture and horticulture made by the Nineteenth General Assembly. The expenditure of this appropriation is discussed under the head of "state appropriations." In the form mentioned it is repealed by the new code.

The experiment station is managed by a board of direction, consisting of the president of the college, the director of the station, and such professors as are connected with the station work. It is the duty of this board of direction to recommend to the board of trustees at its annual meeting in November a proper division of the funds among the various departments of the station according to the work they are expected to do. The time covered is the government fiscal year, ending June 30th. The division made in November, 1897, includes the state appropriation of \$1,500, payable on the first of last May, and is as follows:

DIVISION OF EXPERIMENT STATION FUND FOR 1897-98.

1. Salaries of station staff, as already given under salaries of officers.....	\$	5,600
2. Salaries of assistants—		
Assistant for chemical section.....	\$	400
Assistants for botanical section.....		800
Assistant for horticultural section..		600
Assistant for dairy section.....		400
Assistants for entomological section.....		400
Total.....		2,100
3. Bulletins for printing and distribution.....		3,500

4. Appropriations for sections—

Botany	\$	312	
Horticulture.....		200	
Entomology.....		200	
Chemistry.....		585	
Veterinary science.....		200	
Dairy.....		488	
Agriculture, including labor and all contingent expenses.....		1,710	
Total.....	\$		4,075

5. General expenses—

Heating of building and janitor service	\$	470	
Mail and express		100	
Stenographer		300	
Water.....		100	
Total			1,030

6. Building fund repairs and improvements..... 195

Total.....	\$	16,500
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The experiments conducted during the last two years, and the work outlined for the coming year, are set forth in full in the reports of the station staff, found in another part of this biennial report. The small balance on hand in November compelled a limitation in the work of the station in order that the expenditures for the year might, without question, be brought within the income.

When agricultural hall was completed some of the station staff were given rooms in the new building. A question having arisen as to the right of the college to use the building formerly occupied by them, which was built with experiment station funds, for other than experimental purposes, the following resolution was adopted by the board of trustees and ordered entered of record:

WHEREAS, The removal of the experiment station to its new quarters in the agricultural hall erected by the state provides for the station, in lieu of its former building, more commodious and better equipped apartments; and whereas, it is for the best interests of the experiment station that its quarters be as now established;

Resolved, That the interests of the experiment station in the buildings upon the college grounds be, and the same are hereby, transferred from the former building of the station to its present apartments, and that the former building be henceforth devoted to such other college uses as may be determined upon.

AGRICULTURAL DEPARTMENT.

The standing committee of the board having general oversight of the farm is composed of Trustees Schermerhorn, Stout, Smith, Dixon and Saylor. It is the duty of the committee to make itself familiar with the general plan under which the department is conducted, examine into its receipts and disbursements, check up its inventories, consider the recommenda-

tions of the professor in charge, and make report to the board of its condition and needs. In performing this duty the committee makes use of the bills of the department in the treasurer's office, which give in full the purchases made and the labor employed; the cash reports filed with the secretary, which contain an itemized statement of the amount and kind of property sold, the date of sale, the party to whom sold and the price received; and the farm inventory, which is so arranged as to give a history of the purchase and sale of stock, births, deaths, etc., and the purchase and sale or use of farm machinery and other department property. The reports of the committee, made at the annual meetings of the board, show that all articles charged against the department have been accounted for and that the values fixed in the inventories are reasonable in amount. The committee further say: "Notwithstanding the farm has suffered from the scourge of hog cholera, the inventory has increased; by selection, culling, breeding and buying a high grade of pedigreed and recorded animals now compose our college herds, the equal in merit of any in the state; extensive improvements, in the way of clearing up brush and timber lands, fences, tiling, etc., have been made; and on the whole the farm was never in a more satisfactory condition than at the present time." The committee reports the following receipts and expenditures for the biennial period:

Total cash expenditures for 1896.....	\$ 4,095.41	
Total cash expenditures for 1897.....	7,529.35	
Total.....		\$ 11,624.76
Total cash receipts for 1896.....	\$ 2,650.36	
Total cash receipts for 1897.....	6,275.60	
Total.....		8,925.96
Net cash expenditures		\$ 2,698.80
Inventory for 1897.....	\$ 14,249.83	
Inventory for 1896.....	13,797.89	
Increase in inventory.....		451.94
Cost of maintaining the farm for the two years.....		\$ 2,246.86

The college farm, in common with the agricultural industry in general, has felt the business depression of the last two years. The hog cholera has been an additional factor reducing its income. But especially should it be borne in mind, in considering the financial showing, that its main purpose is not commercial, but experimental and educational. The two purposes can not be separated nor can the educational feature be brought to a commercially profitable basis. While it is the aim of the board that the farm shall be managed upon business

principles and with the strictest economy, it is to be expected that like other educational departments it will require an appropriation for its support.

At its meeting in May, 1897, the board decided to sell a portion of the farm lying north of Squaw creek, which had proven unavailable for farm purposes. The tract, comprising about 85 acres, was disposed of to Mr. J. E. Campbell for the sum of \$3,625. A payment of \$2,000 was made in cash; the balance is to be paid on or before March 1, 1898, whereupon delivery of deed is to be made. Since the land was purchased in 1870 with accumulated interest money it was directed that the proceeds of the sale be credited to that fund. In lieu of the land sold, the board asks the legislature for authority to purchase with the college endowment a tract of not more than 80 acres which shall be more conveniently situated for ordinary farm and experimental purposes.

CREAMERY.

The following is the financial showing in this department for the biennial period:

Cash expenditures for 1896	\$ 19,828.47	
Cash expenditures for 1897.....	21,678.48	
Total.....		\$ 41,506.95
Receipts for 1896.....	\$ 18,795.82	
Receipts for 1897.....	20,496.42	
Total.....		39,292.24
Excess of expenditures over receipts		\$ 2,214.71
Inventory for 1895.....	\$ 1,468.64	
Inventory for 1897 including collections due	691.31	
Decrease in inventory.....		777.33
Net cost of maintaining the creamery for the two years... ..		\$ 3,002.04

The above includes a loss of \$1,200 arising through the failure of Douglass & Co., commission merchants of New York city. Deducting this, the cost of maintaining the department for the two years is \$1,802.04, or in round numbers, \$900 per year. This is much less than the cost of similar departments in the colleges of other states where the commercial idea is not introduced. The commercial feature not only reduces the expense, but adds to the practical character of the instruction given.

COLLEGE LIBRARY.

Upon the recommendation of the committee on library it was ordered by the board that the annual appropriation to that department be apportioned as follows:

1. Ten per cent thereof shall be placed under the control of the department to meet emergencies.

2. Ten per cent may be expended by the librarian for general works under the direction of the library committee of the board.

3. The sum of \$300 shall be set aside for the general expenses of the library.

4. The faculty shall meet in April and October of each year for the purpose of considering the library and its needs. At such meeting each head of department shall submit his or her list of desired works for review by the faculty, and from the lists submitted a final list shall be prepared and apportioned by the faculty and submitted to the library committee of the board for consideration at the May and November meetings of said board. The available fund shall then be divided among the various departments.

5. Balances unexpended on the 1st of October, in each year, shall be at the disposal of the librarian to be spent under the direction of the library committee of the board.

In making additions to the library, prices are secured from a number of leading firms. During 1897, 505 volumes were purchased. An invoice of all property in the department is made at the close of each year. The invoice taken in November shows a total of 11,458 volumes, classified as follows:

General works	904
Philosophy	831
Religion	857
Sociology	1,772
Philology	201
Natural science.....	2,863
Useful arts.....	1,394
Fine arts.....	499
Literature.....	1,640
History	1,497
Total.....	11,458

The committee report the library in excellent condition, and commend most highly the work of the librarian, Miss Clark, and her assistant, Miss Foster.

OTHER COLLEGE DEPARTMENTS.

The plan proposed by Professor Budd of closing out the nursery stock of the horticultural department after 1898, except limited sales from accumulated surplus, was approved by the board. The future policy of the department was left to the farm committee and the head of the department for determination. The employment of a florist for the new greenhouse was deferred, and in the meantime Professor Budd and Foreman Sexton were charged with its care.

The grove in the southwest corner of the college grounds, and a part of the field now used as a pasture by the veterinary department, were added to the college campus. The college

park was also included under the same management as the college grounds.

A contract was entered into with the Hartford Steam Boiler and Inspection company in which said company agrees, for the sum of \$288, to inspect and insure during the term of three years, twelve boilers, located in the different college buildings. The boilers are to be inspected at least twice each year and a written report of their condition furnished the college after each inspection. If an additional boiler is placed in the power house it is to be inspected and insured without additional cost. The total insurance is \$28,800, divided as follows:

Power house.....	\$ 8,000
Main building.....	8,000
Margaret hall.....	5,000
Agricultural hall.....	2,800
Creamery	5,000
Total	\$ 28,800

The professors in charge of the departments of music and elocution are allowed by the board of trustees to charge certain fees for instruction given by them which is not included in the college courses of study. In order that the board might have knowledge of the compensation received by these officers in this connection, it was directed that all fees forming part of such compensation, or used to meet the expenses of these departments, should be paid directly to the college treasurer on bills of collection furnished by the heads of these departments. The amounts collected were ordered paid over to these officers, when entitled thereto, upon bills audited in the usual way by the board of audit.

THE COLLEGE BOARDING DEPARTMENT.

This department is conducted by the college for the benefit of the students. The trustees decide upon the general plan of its control and are responsible for all the details of its management. They establish the price of board, elect the steward, fix his salary, and specify his duties. The college virtually guarantees the payment of its obligations and is the probable heir of its assets. It has, however, for years, been self-sustaining. The present steward, Mr. J. F. Cavell, was appointed in 1895. His salary is \$1,000 per annum, and board, room, fires and lights for self and wife during the two college terms and for such time during vacation as the board may decide that the department needs his services. Under his efficient management the department has prospered financially and has given

satisfaction. The following statement shows its receipts and disbursements during the last two years:

RECEIPTS.		
From students and others in 1896.....	\$ 20,980 09	
From students and others in 1897.....	21,683.18	
Total		\$ 42,663.27
DISBURSEMENTS.		
Paid for labor and supplies in 1896, including debit balance of \$12.23 at beginning of the year.....	\$ 20,756.19	
Paid for labor and supplies in 1897.....	21,349 56	
Total		42,105.75
Excess of receipts over disbursements.....		\$ 557.52
Collections due.....	\$ 520.02	
Bills unpaid.....	414.61	
Balance		105.41
Supplies on hand.....		61.75
Balance to credit of Department.....		\$ 724.68

The board ordered that—

The old experiment station building left vacant by the removal of the station offices to agricultural hall should be removed to a location back of Margaret hall, thoroughly repaired, supplied with a water-closet system and bath-rooms, steam heating and electric lights, and then assigned to the boarding department as a servants' hall. The improvements ordered were made at a cost of \$1,359.94.

The steward was given power to suspend any student from the privileges of the dining room whose conduct was such as to disturb its good order.

It was directed that students, with the consent of the president, be permitted to board and room outside of the college, but that no student be permitted to room in the college buildings and board outside.

- DEPARTMENT OF FIRES, LIGHTS AND INCIDENTALS.
- The income of this department is derived from the following sources:
1. Payment of 70 cents per week by students rooming in the boarding cottages.
 2. Payment of 85 cents per week by students and teachers rooming in the other college buildings.
 3. Payment of \$5 per term by students boarding outside of the college.
 4. Sales of coal to residents of the college campus, for their convenience and to the slight profit of the department.

5. Payments by the college from its support funds of an amount sufficient to balance the account.

The expenditures may be classified as follows:

1. Heating and lighting the college buildings.
2. Water supply and janitor service for these buildings.
3. Incidental expenses, such as distributing the students' mail, and the stationery and clerk-hire of the department.

Steward Cavell has charge of the janitor service in the college dormitories; President Beardshear of the heating, lighting and janitor service in the office building; Professor Osborn of the janitor service in Morrill hall; Professors Bennett and Spinney of the janitor service in the chemical and physical laboratories; Treasurer Knapp of the distribution of the students' mail; and Professor Bissell of the purchase of coal, employment of firemen, and all other matters not included in the assignments previously mentioned.

All collections are made by the college treasurer and claims against the department are paid by him upon bills properly audited.

The following are the receipts and expenditures for the biennial period:

RECEIPTS.	
From students and others, 1896.....	\$ 11,015.03
From students and others, 1897.....	10,547.66
Total	\$ 21,562.69
From college support fund, 1896.....	\$ 3,350.00
From college support fund, 1897.....	2,625.30
Total.....	5,975.30
Total receipts	\$ 27,537.99
EXPENDITURES.	
For supplies and labor during 1896.....	\$ 14,354.95
For supplies and labor during 1897.....	13,183.04
Total expenditures.....	27,537.99

The payments by the college from its support fund are considered to be a fair equivalent for heating, lighting and care of the library, museum, chapel, recitation and other public rooms. With the end in view, however, of reducing these balances as as much possible the board directed at its last meeting that a separate expense account should be kept with each building on the grounds, showing all items of expense incurred on this account during the year. A form of expense sheet was adopted, and the officers in charge directed to report to the board at least twice a year.

The following orders were adopted relating to this department:

- 1. Repairs of heating and lighting plant shall be charged to the state repair funds.
- 2. The expense of heating and lighting the dining-room, kitchen, and servants' quarters shall be charged to the fires and lights account.
- 3. Any excess in the piano rental fund, after paying the expense of tuning pianos, shall be credited to the fires and lights account, in order that such excess may be used in heating and lighting music hall.
- 4. Electric lights shall be furnished during the winter to the office building, the creamery, and the farm barns.

ROOM RENT.

The room rent charged against students and others is \$3 per term. The fund thus obtained is used by the board in repairing buildings and purchasing furniture for the student dormitories.

The following exhibit shows the receipts and expenditures during the last two years:

RECEIPTS.	
Balance on hand at the beginning of the biennial period.....	\$ 416.75
Received from students and teachers 1896	\$ 1,966.55
Received from students and teachers 1897.....	2,008 53
Total.....	\$ 3,975.08
Total available fund.....	4,891 83
EXPENDITURES.	
Main building--	
Furniture for student rooms, 100 iron beds, 60 oak wardrobes and 9 tables	\$ 910.50
Other furniture.....	22.25
General repairs.....	382 12
Total.	1,314.87
Boarding cottages repairs.....	106.85
Margaret hall--	
Cistern	\$ 213.27
Carpets, 421½ yards, for halls.....	845.56
Screens for domestic economy rooms and third floor.....	64.85
General repairs	157.10
Total	\$ 780.78
Servants' hall--	
Remodeling and repairing old experiment station building for servant quarters, including painting, replastering, plumbing, and making connections with heating, electric light, and water systems.. ..	\$ 1,041.11
Wages of general carpenter working on dormitory buildings... ..	805.60
Cost of sinking well in 1893 near engineering hall in attempt to secure water supply.....	280 88
Sewer repairs	34.95
Repairs on college hospital.....	29.53
Repairs on various buildings.....	126.28
Total expended... ..	\$ 4,020.85
Balance on hand	370.98
Total.....	\$ 4,891.83

It is the design of the board of trustees to hereafter confine the expenditures of this fund to the purchase of furniture for student rooms and the repair of student dormitories. The steward

was directed to keep an account with the furniture in each of the student and public rooms. A special form of inventory book was purchased for this purpose.

The board ordered that a rental of \$4 per month be charged for each of the three front and center south rooms and \$3 each for the two west rooms on the second floor of the office building.

MATTERS RELATING TO STUDENTS AND DEGREES.

The important changes in the requirements for admission and in the courses of study recommended by the faculty were approved by the board. The changes are fully set forth in the report of President Beardshear.

The expenses charged against the students remain the same as in the last biennial report. As there stated, the entire cost to a student entering college, of board, fires, lights, laundry, books and incidentals for the school year of thirty-three weeks will be from \$140 to \$150, according to the course of study chosen. The expense to students of the higher classes will be somewhat in excess of these amounts, owing to the laboratory fees and the greater cost of the books used.

The number of students graduating in the different college courses during the biennial period is as follows:

	1896	1897
In the course in agriculture	8	6
In the course in science relating to the industries.....	22	19
In the course in mechanical engineering	4	2
In the course in civil engineering.....	6	6
In the course in electrical engineering.....	3	11
In the course in mining engineering.....	..	1
In the ladies' course.. ..	5	9
In the course in veterinary science .....	..	1
Totals	48	55

Appropriate degrees were conferred upon these graduates.

The degree of master of science (M. Sc.) was conferred upon Emma E. Pammel, C. B. Weaver, Emma F. Sirrine, S. C. Hutchison, H. C. Irish and G. I. Miller; the degree of master of agriculture (M. Agr.) upon C. F. Curtiss, G. W. Carver, C. D. Ræd, W. S. Hayes and E. E. Faville, and the degree of master of scientific agriculture (M. Sc. Agr.) upon C. H. Eckles and C. W. Louthan.

At the meeting of the board in November, 1897, the degree of master of scientific agriculture (M. Sc. Agr.) was, by unanimous vote, conferred upon Hon. James Wilson.

Respectfully submitted,

E. W. STANTON,
Secretary.

DEPARTMENT REPORTS.

THE FARM.

C. F. CURTISS, PROFESSOR.

The college farm consists of about 800 acres and constitutes a part of the equipment for the instruction in agriculture. The farming and pasture land is located on either side of a small stream known as "Squaw creek," and the tillable land represents a wide variety of soil, ranging from the rich bottom loam to upland prairie and clay hills. The pastures are mainly confined to the bottom wooded lands and bluffs along the stream, and afford good summer and winter grazing. The equipment of live stock consists of six pure breeds of cattle, six of hogs, seven of sheep and five of horses. These animals are used in connection with the practical operation of the farm, and also in scientific experiments conducted by the experiment station. The dairy herd, for instance, is under investigation the year round and a complete record is kept of all feed consumed by each breed and charged at the prevailing market prices, and the product is credited at its actual value. In this manner the net profit from each cow in the herd is determined, and incidentally much valuable data is afforded for the study and investigation of the dairy type and characteristics and other problems of this nature. A similar investigation is in progress with the various breeds of hogs and sheep, and the results from year to year are recorded in the station bulletins, some of which have been quoted extensively on both continents, and published entire in the publications of two foreign governments, namely, Canada and Germany.

The entire farm is managed on a practical and educational basis, and the most advanced methods, appliances and machinery are introduced in all of the work. It is necessarily much more expensive to conduct a farm on this basis, with a multiplicity of breeds requiring separate quarters and care. The educational demands make heavy inroads in the financial returns, but notwithstanding these difficulties the farm is on a self-sustaining basis. Superior animals of the various breeds are furnished to farmers of this and other states for breeding purposes, and it is the policy of the department to send out nothing but stock of high excellence. Prices obtained for this stock generally range considerably lower than prices for stock of corresponding value sold elsewhere.

Much of the work in conducting the farm and investigations by the experiment station is performed by students. The price for such work ranges from 7½ to 15 cents per hour, according to the value of the service rendered. This work also has a practical and instructive value, though it is optional, to the student. The field work of the farm and station affords object lessons in good plowing, preparation of the soil, cultivation, harvesting, handling and storing grains and farm crops of all kinds, and these practices are taken up and discussed both in the field and lecture room. The management of the various herds representing the numerous breeds of live stock kept on the farm afford similar lessons in animal husbandry.

The voluntary system of labor and the object lesson method of instruction combined with scientific study and technical information has been adopted in preference to the original policy of compulsive labor. Many of the young men taking agricultural instruction at the college have served an apprenticeship on the best farms of Iowa and other states, and to require them to spend a good portion of their time in plowing, ditching, cultivating, pitching hay, stacking, and other menial work would be a manifest injustice. On the other hand, the instruction furnished comprehends a knowledge of the principles involved in doing all of this work and the most advanced scientific and practical methods employed. Though the students do not dig ditches and lay tile, they establish and run the lines, set grade stakes, and inspect and oversee all of the work. They also study the reason for drainage and character of lands requiring drainage, and the benefits to be derived therefrom. The composition and value of hay and forage plants are subjects of investigation and the students are taught to grow these crops in such manner as to give the best results. The work of the experiment station in the growth of field crops and the management and production of live stock affords many object lessons. During the past season the various breeds of hogs have been under experiment to demonstrate the relative cost of producing pork from the English bacon breeds known as the Tamworth and Yorkshire, and the Poland China, Berkshire, and Chester White, commonly known as the corn belt or lard producing hog. This investigation just now is of wide practical interest, owing to the fact that the leading markets of the world are demanding a different product, that is, a leaner pork and bacon than has been formerly furnished, and it is well known that the comparison of pork products in foreign markets is very unfavorable to the American article, and there is a consequent loss of at least 25 per cent by reason of lack of conformity to this demand. This work has been carefully taken up on an extensive scale and the animals and results are under observation and used for instruction before the classes. Similar work has also been in progress for several years past with the various breeds of sheep, including those adapted especially for wool and others for mutton production, and in addition lambs bred on the western and southern range territory.

THE CREAMERY.

C. F. CURTISS, PROFESSOR.

The college creamery is operated as an educational feature of the college, and the work is also conducted on an extensive commercial scale. The daily supply of milk received at the creamery ranges from 10,000 to 25,000 pounds. This milk is purchased from about 200 patrons and rated according to its value as determined by the Babcock test and inspection for purity, cleanliness and wholesomeness. The standard of the milk in these latter qualities has been very materially raised within the past year by a system of grading into two classes or more, and rating according to value. The milk received at the creamery is used for both butter and cheese making and in conducting the investigations in dairy work. The work of experimentation is separated financially from the commercial operation of the creamery, and the instruction given affords good practical as well as scientific training, as nearly all of the

work in running the creamery and turning out superior products is done by students under the direction of skillful instructors. The students themselves are taught to receive, inspect and weigh the milk at the delivery platform, temper it for separating, manage the separators, ripen the cream by the latest and most approved methods, operate the churns and butter workers, color, salt and pack the butter ready for shipment, and note the results of its rating on the market. The same process is taken up in the manufacture of cheese, and all of the conditions favorable to the production of a first-class product are carefully studied.

This department of the college affords instruction in four distinct dairy courses, namely: a four weeks' winter course adapted especially for butter-makers who have had previous experience; a one term course, a one year course, and a four year course in dairying and agriculture. These courses of instruction, in addition to the practical and technical work required in the creamery, embrace a series of lectures covering all phases of dairy work, including instruction in mechanics and dairy machinery, and lectures on dairy stock, dairy bacteriology and dairy feeding. It is also designed to teach dairying on a smaller or farm scale as well as the management of creameries on a more extensive plan. The number of students taking dairy instruction in the different courses is about 100 per year, and the demand for competent dairymen and buttermakers exceeds the supply.

During the past year several graduates have been furnished to take charge of large city dairy establishments that are being operated by advanced methods, and pasteurized and sterilized milk of guaranteed purity and quality sold in bottles. The demand for higher skill and more thorough training has quite generally characterized dairy work within the past few years. Methods employed within the college creamery have been introduced by many of the leading and most progressive dairymen of the state, and have also attracted wide attention elsewhere. The product of the college creamery has invariably commanded a premium of $\frac{1}{2}$ to 1 cent above the top quotations of New York and other eastern markets, and where it has entered into competition with other products it has universally taken high rank. The dairy school has in all lines been practical as well as scientific, and demands for butter makers have come from nearly every state in the union. The students also come from almost as wide an area, although by far the larger part are confined to our own state.

The creamery is well equipped with all modern appliances and machinery, and the annual expenditure for milk amounts to from \$20,000 to \$25,000. The receipts from the sale of dairy products are sufficient to cover practically all of the running expenses of the creamery with the exception of the expense of instruction given to students; thus the commercial feature of the work is self-sustaining and the instruction is materially strengthened thereby. All expenditures and collections are made by the treasurer of the college, where a complete record of all transactions is kept.

THE EXPERIMENT STATION.

AGRICULTURAL SECTION.

C. F. CURTISS, DIRECTOR.

During the period covered by this biennial report quite extensive investigations have been made in the field of animal and dairy husbandry and the study of economical production of field crops. Bulletin No. 32 contains the report of an experiment in feeding cows, conducted with a view to determine the cost of producing butter from cows of different breeds on varying rations. The cows used in this investigation were representatives of the Jersey, Holstein and Shorthorn breeds taken from the college dairy herd. Extensive use was made of the several root crops usually grown for this purpose in connection with field cured corn fodder fed dry and steamed, and supplemented with a good grain ration, followed by a grazing period with and without grain. This investigation covered a period of 143 days with eight cows.

Bulletin 32 also contains the results of an investigation made to determine the effect of feeding cotton seed meal to dairy cows. During the winter of 1895-96, owing to the high price of corn and other farm feeds, cotton seed meal was largely shipped into Iowa from the southern cotton belt states. It was delivered at about \$17 per ton, and at this price constituted an economical and profitable feed for supplementing corn and other grain and fodder rations. It was desirable, however, to know to what extent it could be judiciously and safely fed to dairy cows and other stock without endangering their health or unfavorably influencing the quality and market value of dairy products. This work was taken up with five grade Shorthorn cows that had recently calved, and they were used through six test periods of ten days each. The amount of cotton seed fed ranged from one to six pounds; and the cotton seed meal was also used for hog feeding in conjunction with the dairy. It was found that no injurious effects were apparent in the butter until the amount of cotton seed meal reached or exceeded four or five pounds per head daily. The butter in this experiment was sent to Chicago and scored by experts who had no knowledge of the conditions prevailing in the experiment, and a careful chemical analysis was also made by the station chemist.

Another article in this bulletin treats of the maturing of skim milk calves. In a previous bulletin (No. 25, issued in September, 1893,) a preliminary report was made of an investigation begun in that year to determine the value of skim milk as a product for feeding calves in conjunction with the principal farm grains, and also the economy of growing such calves to maturity for the market. The report in Bulletin 32 deals with the growth and development of these calves from the termination of the milk feeding period until they were placed on the market when 26 months old. A detailed record is furnished of the cost of feed-

ing from the beginning to the end of the investigation, and their value on the market was obtained to determine the advantage and profit resulting in marketing at different ages.

The experimental crop notes for 1895 covered the year's investigation with winter wheat. A yield of 48 to 54.7 bushels per acre was obtained from the Turkish Red variety. The press drill was again compared with the common drill and broadcast seeding. Eight varieties of oats were tested and the yield ranged from 71½ to 150 bushels per acre. The eight varieties of corn grown upon the experiment station grounds during that year showed a range in yield from 47.1 to 107 bushels per acre.

The results of different methods of restoring pasture are also reported. In this investigation one-tenth acre plots of blue grass pasture were treated with land plaster, liquid manure, and timothy and clover seed disced in and the crop compared with a plat having no treatment. The application of liquid manure and the discing of clover and timothy gave decidedly beneficial results, and we have tried this treatment with larger areas during the past season with equally marked improvement.

An extensive investigation in the production of butter flavors is also reported in Bulletin 32, in which it is shown that the flavor of butter under normal conditions with good milk is largely controlled by the methods employed in ripening the cream. This is an advance that recent improvements in butter making have developed, entirely contrary to original ideas concerning this subject, as it was formerly supposed that the cow and her feed, and breed characteristics, were the most important factors. Under the light of recent investigation the intelligence of modern butter making has largely supplanted these. The methods employed in this experiment and applied in our creamery have since become largely adopted in the leading creameries in this and other states, and the college has supplied butter makers to some of the largest firms of the country for the introduction of these principles.

The article on soil moisture in this bulletin presents a report of joint work of Dr. Weems and the agricultural section, and work has been conducted since 1895 under the supervision of Mr. Edgerton in conjunction with the chemical section. Some interesting data has been obtained of practical value in successful cultivation and crop production. These later results are now being prepared for publication in forthcoming bulletins.

Under the title of "Our Window Gardens," Mr. George W. Carver, professor of agriculture in the Tuskegee college of Alabama, who was at that time employed as assistant in the experiment station, while doing post graduate work, furnishes a practical contribution on the propagation and management of house plants.

In the winter of 1895-96 the station took up the investigation of mutton and wool production, with a view to furnishing as much exhaustive and practical information on this subject as possible. The sheep industry was at that time in a very depressed condition, and there seemed to be a lack of essential information concerning this branch of live stock. In order to cover this field as fully as possible, carefully selected representatives of ten of the leading breeds of sheep were obtained and put into a ninety-day feeding test. The breeds represented were Southdowns, Shropshire, Oxford, Suffolk, Lincoln, Leicester, Cotswold, Dorset, Merino, Range, and Shropshire-Merino cross. A careful record was kept of all the details of the feeding work, and at the end of the test the gain and cost of production were computed, together with many

other items of interest, including the weight and value of wool, and the different lots were placed upon the market and sold on their merits, and a careful slaughter and block test conducted by Swift & Company. All of these lots representing the different breeds, and cuts of mutton from each were illustrated in Bulletin 33; and Bulletin 35, lately issued, contains an extended account of a second investigation of this character and a summary of results in both experiments. It is the policy of the station to duplicate most of its important investigations in order to verify results and insure greater accuracy. This experiment has met with a grateful appreciation by sheep men generally, and it has been widely quoted and republished in full in the publications of two foreign governments; namely, the Canadian and the German Agricultural societies. Bulletin 33 also contains the second investigation in comparing the feeding value and relative merits of steers, spayed heifers, and open heifers for beef, and in this investigation, as in the first, the heifers have made a decidedly favorable showing. The second experiment was more satisfactory than the first in many respects. It was also found that the discrimination against heifers in market had largely diminished. In the first experiment a distinction of \$1 per hundred was made; in the second, a difference of only 25 cents per hundred weight was made, and in the slaughter and block tests that were conducted both lots of heifers showed a higher percentage of beef than the steers, and the entire car load made a record of 67½ per cent, which has never before been equaled by any car load of cattle slaughtered in Chicago. These cattle were finished at two years of age and illustrations, and photographs of the meat reproduced in the bulletin.

A comparison of the feeding value and chemical analysis of new and old process oil meal is also reported in Bulletin 33; and this bulletin contains a report of the first experiment conducted at the creamery in comparing the milk of fresh and stripper cows for butter making. It is well known that there is an old established theory to the effect that good flavored butter can not be made from the milk of stripper cows. In previous investigations conducted at the station in dairy work it was found that the method of ripening cream for butter making had much more to do with the quality of the product than the character of the cow or feed, provided they were in normal condition. The college herd was divided into two sections; the fresh cows being placed in one group and the strippers in another, and the milk carefully ripened and butter made from each lot and sent to experts in Chicago for scoring with the result that there was no appreciable difference; and by the application of advanced methods the flavor was controlled by the butter maker independent of advance in the cow's period of lactation. This investigation has since been repeated and uniform results obtained in three distinct experiments.

Bulletin 35 contains the report of a continuation of the lamb feeding experiments already referred to taken up the winter of 1895-96 and a summary of results of both investigations. In addition to this work in feeding lambs, an experiment with 252 head of range lambs representing three distinct lines of breeding, and one lot shorn compared with the unshorn is reported. These lambs were fed primarily with a view of determining the economy of mutton production with that class of stock and thereby affording a market for the surplus product of cheap grain in this and other states similarly situated during the past winter. The experiment was of very general interest and the results are quite satisfactory and of practical value to a large class of feeders.

In Bulletin 35 a third experiment in raising calves on separator milk is reported. This experiment was conducted along similar lines to those reported in previous bulletins and the results of the three experiments are summarized and shown to be entirely consistent in establishing a superiority of the carb hydrates and fat-containing feeds, such as cornmeal, oats, and flax seed, over the nitrogenous by products like oil meal, in supplementing a skim milk ration for calves. Another feature of practical interest in this investigation is that the carb-hydrate feeds represented by corn and other grains are much more abundant and economical. This experiment was conducted with a carload of calves that are being carried on to maturity under experimental conditions.

Another article in Bulletin 35 presents a continuation of the work in ripening cream by the methods previously described.

SUGAR BEETS.

The prospective sugar beet industry of Iowa has attracted considerable attention and its significance to the agriculture, manufacturing and commercial interests of the state fully warrant this consideration. Within comparatively a few years sugar has assumed a prominent place in the daily bill of fare in all civilized nations and it is no longer regarded as a mere luxury in the form of a condiment or sweetening for other foods; but recent investigations in testing the endurance of European armies on various foods have developed the fact that sugar is an important nutrient and well calculated to repair the waste tissues of the body and sustain physical and mental exertion. It is not strange, then, that the consumption of sugar by the American people should have reached over sixty pounds per capita annually, and the world's consumption of sugar increased over two-thirds within a decade. We consume more than twice as much sugar per capita as the German people, notwithstanding the fact that Germany leads all the nations in its production for export. So important is this industry regarded there, that a tax is put on sugar consumed at home and a bounty paid on that exported.

The people of Iowa annually pay out about \$6,000,000 for sugar. Perhaps it does not often occur to us that this expenditure amounts to about \$16,000 a day by the people of an agricultural state for a product that is purely agricultural in its primary form and for the production of which all other conditions are favorable.

An acre of good Iowa land planted to corn, yielding forty bushels and marketed at 20 cents per bushel will buy about 150 pounds of pure granulated sugar. The same area planted to good sugar beets and properly cultivated will easily yield 2,500 to 3,000 pounds of pure sugar. There is, of course, a larger outlay and expenditure in growing the beets, and the expense of manufacturing is also involved in the production of the sugar, but the cash return from an acre of corn on the foregoing basis is only \$8, while the cash return to the farmer from a good crop of sugar beets is \$45 or \$50 per acre. In the adjustment of our international accounts it required every pound of the wheat and flour we exported last year to pay for the sugar imported. This amount reached \$100,000,000; or more money than we pay for any other article from foreign countries; and notwithstanding the magnitude of our meat producing industry, it required all of our export beef, beef products and lard last year to pay for the sugar we ate.

These considerations, together with the fact that Iowa lies wholly within the sugar belt as described by the lines of favorable climatic and soil condi-

tions for sugar production, have led to quite extensive investigation of this subject by the Iowa Experiment station. This investigation began in 1891 and has been continued every season since, though the largest areas have been grown in 1891 and 1897. It was the opinion of those in charge of the station then, as now, that this industry would eventually be developed in America, and the object has been to accumulate as much practicable and valuable data and other information as the subject warranted. A very general interest has been manifested in sugar beet growing during the past season. Through the co-operation and assistance of the United States Department of Agriculture the Iowa station has distributed over 1,500 pounds of seed. The requests for this seed have come from every county of the state. Instructions for preparing the soil, planting and growing the crop, and forwarding samples for analysis, have been sent with each package of seed, and nearly a thousand samples of beets have been analyzed in our chemical laboratory under the direction of Dr. J. B. Weems, the station chemist. These results are of interest in establishing the general adaptation of our soil and climatic conditions for sugar production, and they fully confirm Iowa's possibilities in that line, although the beets grown have not all been up to the standard required for practical sugar making. This deficiency, however, may be fairly attributed to a lack of knowledge and observance of the required systematic and careful methods by the grower, rather than the absence of naturally favorable conditions. That this conclusion is warranted is demonstrated by the fact that nearly every county in the state that has forwarded beets for analysis has furnished both high and low grade samples. The following tabulated results of analyses of beets grown in several counties in various sections of the state, giving the average results of all samples in sugar and purity, and maximum and minimum results, and the average results of the poorer and better samples grouped in two divisions, will quite clearly present this variation.

COUNTY.	Total No. of samples analyzed.	AV RESULTS OF ALL SAMPLES ANALYZED.		MAXIMUM AND MINIMUM PERCENTAGES FOUND IN SAMPLES.		AVERAGE RESULTS OF PUREST SAMPLES.		AVERAGE RESULTS OF BEST SAMPLES.				
		PERCENTAGE		MAXIMUM PERCENTAGE.		MINIMUM PERCENTAGE.		PERCENTAGE.				
		Sugar.	Purity.	Sugar.	Purity.	Sugar.	Purity.	Number of samples.	Sugar.	Purity.		
											Number of samples.	
Adair.....	6	13.41	77.45	15.78	84.33	11.30	69.57	2	11.39	71.88	14.41	80.47
Allamakee.....	15	14.26	79.47	17.10	84.74	8.08	69.00	3	11.06	76.99	15.06	80.09
Black Hawk.....	9	13.92	79.86	17.20	94.61	11.30	71.63	2	11.55	72.60	14.60	81.94
Boone.....	21	13.33	76.81	19.06	81.88	10.93	72.34	8	11.82	72.68	14.26	79.36
Buena Vista.....	7	13.63	77.70	15.52	82.60	11.80	74.12	2	11.80	74.24	14.36	79.07
Calhoun.....	8	15.80	81.46	16.18	81.14	13.09	78.80	1	13.09	73.80	16.53	82.47
Carroll.....	9	12.28	75.51	14.13	79.60	10.23	63.43	6	11.49	74.10	13.85	78.33
Cass.....	14	11.87	74.68	16.73	86.40	9.69	63.43	8	10.25	70.16	14.30	81.43
Clayton.....	6	13.48	78.47	16.00	85.98	11.21	72.97	3	12.08	74.06	14.89	82.87
Fayette.....	6	14.92	80.25	17.92	88.84	11.33	70.12	1	11.38	70.12	15.36	82.37
Greene.....	34	12.99	77.81	15.69	84.28	8.65	62.29	18	11.69	74.45	14.45	82.19
Hamilton.....	10	12.58	75.34	15.07	81.54	10.28	65.85	7	11.84	73.46	14.24	79.75
Humboldt.....	11	14.29	80.09	18.76	86.28	10.81	70.53	5	12.09	76.95	16.12	83.79
Johnson.....	9	12.58	75.59	14.79	77.23	9.83	67.54	5	11.65	71.94	13.74	80.15
Marion.....	28	12.74	74.06	16.51	80.61	5.69	47.88	19	11.61	71.82	15.12	79.83
Marshall.....	11	12.51	74.88	16.03	82.57	8.97	62.56	7	11.46	71.55	14.34	80.06
Mitchell.....	10	12.37	76.21	14.13	82.28	10.76	71.39	7	11.80	71.80	14.38	81.18
Pottawattamie.....	25	13.00	77.98	16.34	85.83	10.43	74.74	18	12.23	76.58	14.83	81.58
Story.....	19	12.19	76.32	15.02	82.82	10.15	75.26	15	11.66	77.23	11.23	79.93
Washington.....	5	12.81	77.86	13.59	82.38	12.72	74.68	1	12.72	74.68	14.12	78.65
Woodbury.....	8	13.68	74.10	14.49	80.09	11.35	68.16	6	12.14	72.29	11.31	79.51
Benton.....	7	13.45	76.68	14.94	77.17	12.54	72.65	1	12.54	72.65	13.61	77.30
Cedar.....	9	12.56	74.48	15.13	79.03	10.97	70.17	4	11.41	71.67	13.47	76.28
Chickasaw.....	7	13.84	75.54	14.31	78.66	11.96	68.68	3	12.56	73.67	13.98	77.69
Clinton.....	4	15.81	78.97	18.11	81.84	11.41	74.09	1	11.41	71.09	17.23	80.60
Decatur.....	4	14.15	79.27	18.98	77.87	12.23	73.08	4	11.41	71.09	14.14	79.37
Delaware.....	5	13.23	75.56	16.43	80.99	11.03	71.27	2	11.40	71.19	14.44	18.42
Floyd.....	10	12.77	75.01	15.56	82.19	7.98	67.24	6	11.54	73.98	14.62	75.66
Grundy.....	9	12.00	73.91	14.53	81.76	9.20	63.76	5	10.67	70.07	13.67	78.71
Hancock.....	14	11.90	75.82	15.90	79.03	7.78	69.94	14	10.23	69.12	14.17	79.41
Hardin.....	7	12.88	77.03	15.18	80.41	11.08	71.26	5	12.33	76.21	14.26	78.96
Jasper.....	14	13.06	76.88	16.62	77.29	9.22	65.56	8	11.97	75.92	14.53	77.95
Kossuth.....	6	12.58	77.26	15.38	83.58	8.54	66.20	3	10.80	71.23	14.25	83.23
Linn.....	6	12.08	74.08	16.83	83.49	9.33	69.94	3	11.14	73.13	16.73	81.49
Madison.....	7	12.55	74.34	14.31	79.77	9.53	60.61	5	11.89	71.67	14.21	81.02

The foregoing results, though incomplete, are fairly representative of the sugar beets grown in the state during the past season. The figures contained in the last three columns under the head of "average results of best samples" indicate quite satisfactory beets, although in a few cases the purity is below the required standard. For commercial sugar making a beet is required containing not less than 12 per cent pure sugar with a purity co-efficient of at least 80 per cent. Sugar beets containing more impurity than this are unsatisfactory for manufacturing, for the reason that each additional pound of impurity or foreign matter in the beet juice keeps at least one pound of sugar from crystalizing. Sugar beets that are carelessly grown are more likely to be deficient in purity than in sugar, likewise immature beets and those grown on rich soil containing an excess of barnyard manure or vegetable matter generally carry considerable solid matter in the juice which is not sugar, and consequently their value is impaired for sugar making purposes. For this reason swamp land or newly cleared forest land is unsuited to beet growing. Large beets are also almost invariably poor in sugar and purity. Many of the beets analyzed at the experiment station this year were forwarded early in the season before the crop had fully matured, and as a result the analyses did not indicate as good beets as the conditions were capable of producing. A good many of the low percentages of both purity and sugar in the foregoing table are due to premature gathering of the beets.

The influence of this factor is shown in the following results of 139 samples of beets from twelve counties and tabulated according to date of harvesting:

18 samples Sept. 15 to Oct. 5, average per cent sugar 11.52; average per cent purity 72.88
 62 samples Oct. 5 to Oct. 25, average per cent sugar 13.12 average per cent purity 76.82
 59 samples Oct. 25 to Nov. 15, average per cent sugar 14.05; average per cent purity 80.18

It is probable that the results were more largely governed by the date of harvesting during the past season than usual, but these figures indicate the importance of having the crop fully matured. For that reason it is always best to plant the seed as early in the spring as soil and temperature conditions will warrant. At the experiment station we have made it a rule to plant sugar beets immediately after corn planting. A good stand is absolutely essential to success, and all conditions at time of planting must be as favorable as can possibly be obtained. An uneven stand results in large beets adjoining the vacant places, and these beets, as previously explained, are always comparatively low in sugar and purity.

"The sugar beets grown on the experiment station grounds have always ranked higher in both richness and purity than those grown in other sections of the state. This superiority has doubtless been largely due to the exercise of more care in preparing the ground and cultivating and growing the crop. The accompanying photograph of the field of beets grown during the past season indicates the condition of the crop during the month of August after cultivation was finished.

"Six varieties of beets were grown during the past season and each variety on six different plots under varying conditions. The average results were as follows:

VARIETY.	Sugar. per cent.	Purity. per cent
Schreiber.. .. .	15.09	83.23
Original Klein Wanzleben..... .	14.72	82.62
Eramez Elite	14.30	81.09
Zieman..... .	13.90	79.72
Dippe.. .. .	13.83	78.91
Vilmorin	13.33	80.11

"All of these varieties with two exceptions have been above the standard in quality and purity. The varying conditions of soil and cultivation which constitute a part of our experiments in growing these beets were not all favorable to the best results, and this feature has tended to somewhat reduce the average. This has always been the case, in previous experiments as well, but all of the beets that have been grown carefully with a view to securing the best results have always measured up to a high enough standard to be fully satisfactory for commercial purposes. The average yield on fourteen plats that were fairly representative of the entire area was twenty-two tons per acre. The past season was quite unfavorable for germination, owing to the low temperature at planting time. This prevented an even stand, and to some extent affected the quality of the crop. All crops were backward throughout the season and did not ripen at the usual time, although the autumn was mild and continued favorable until a late date. The station plats were sampled for analysis twice during the harvesting period; the first on October 23d and the second November 11th. The results were as follows:

Sixty-four plats October 23, average per cent sugar, 13.29; average per cent purity, 79.43
Same plats November 11, average per cent sugar, 14.19; average per cent purity, 81.47

"These results confirm the conclusion that immature beets are always of poorer quality than those that have properly ripened. In some cases, however, it has been observed that beets are injured by being left in the ground too long. When the season is favorable for early ripening and late fall rains causing new growth to set in the beets rapidly deteriorate in quality. This is a matter that requires close observation and the exercise of good judgment.

"When sugar beet culture was first considered in the West it was thought that sandy soils were necessary to the successful growth of the crop. It has been determined, however, that this is not essential. A wide variety of soils have been tested on the college farm and at various points in the state and also in other states, and the general conclusion is that any fairly good soil that will grow a satisfactory crop of corn or potatoes will produce sugar beets successfully. Soils containing an excess of vegetable matter, as already explained, are objectionable, and on the other hand a depleted soil is not suited to beet growing. It is also well established that the good soils of this state do not require fertilizing for sugar beets. Various fertilizers have been tried without resulting in any appreciable improvement of the crop. It is generally believed by those who have been most successful in growing test patches throughout the state that sugar beets can be profitably grown for \$4 per ton; the usual price prevailing where factories are in operation.

"It has been difficult to determine the actual cost of the crop at the experiment station on account of the features of investigation involved, but we have produced satisfactory crops at a cost not exceeding \$2 per ton for the labor and seed, making no allowance for rent of the land. The large amount of hand labor—hoeing and weeding, considered necessary in producing sugar beets has been deemed a formidable difficulty in the way of growing the crop commercially or on an extensive scale. This is largely obviated by the use of improved machinery and the application of proper methods in preparing the seed bed and cultivating thoroughly at the right season, though the thinning, and at least one weeding must be done by hand. This cannot be obviated but can be done with cheap labor. The use of improved machinery also greatly facilitates the work. We have on the college farm a seeder that plants and cov-

ers four rows at a time and will readily plant as many acres a day as can be planted to corn with an ordinary corn planter; and we also have a cultivator adapted to cultivating four rows at a time. There is no question about doing the work. Iowa farmers will produce the beets if it will pay.

"There are good and essential reasons why the beet sugar industry should be established in Iowa. In addition to saving the expenditure of \$6,000,000 annually that should be kept at home, it would bring a better system of agriculture to the state in all of its branches. Sugar beet culture would bring more thoroughness, more careful methods, more intelligence, and a more rational and better balanced system of farming. Every well cultivated field of sugar beets stands as an object lesson in good farming and a protest against superficial and slovenly methods. Sugar beet growing necessitates the intensive system of agriculture, and this system applied to Iowa means better crops, better stock, better farm products, better homes, and a better farm life in every way. The introduction of beet culture would be of incalculable value to the live stock industry, independent of its other advantages. The beet pulp and the roots that would be fed directly to stock would result in higher excellence and greater economy of production. Then, too, there is no crop that could be so advantageously introduced in our plan of rotation as the sugar beet. It is eminently adapted to combining with the grain crops. Chemically considered, pure sugar consists of nothing but carbonic acid gas and water, both of which nature has supplied in great abundance. The removal of a crop of sugar takes nothing from the soil that is of any value in fertility. If the pulp is fed and the droppings of the animals applied as manure, beets will exhaust our lands less than any crop we can grow. There are only three agricultural products that can be grown extensively without exhausting the soil, viz: sugar, cotton and butter. When we sell butter we sell a pure fat, and \$1,000 worth of it would not contain 50 cents' worth of material that has any fertilizing value, and if we were to sell sugar we would be selling pure carbohydrates that have no value as fertilizer. But \$1,000 worth of wheat or oats at present prices would take from the land over \$300 worth of fertility, or at least that which would cost that amount if restored in the form of commercial fertilizers. Commercial fertilizers will never become necessary in Iowa provided rational policies are pursued, but it will be profitable to conserve fertility by every reasonable and judicious method.

"The results of the experimental work in sugar beet growing in Iowa have fully confirmed the opinion that sugar making in the state is practicable, and there is every reason to believe that the work might be profitably carried on. This is gratifying to those interested in the welfare of the state, but on the other hand there is nothing in these results to fully warrant or encourage the establishment of factories under present conditions. Favorable soil, climate, and all natural advantages, such as cheap coal, good transportation facilities, an ample supply of water of good quality and rich deposits of unusually pure limestone are present in great abundance; but evidence is yet lacking that any locality in the state has made such progress and attained such results in successful sugar beet growing as to be particularly encouraging to the investment of sufficient capital for the erection of a factory. This statement may seem a little inconsistent, but when it is remembered that every beet sugar factory that is in successful operation in the United States to-day has been obliged to undergo a severe struggle and operate at great disadvantage during the first

years of its existence, while farmers were learning to grow beets successfully for practical sugar making, the erection and operation of a \$400,000 or \$500,000 plant several years in advance of the conditions essential to practical success from a business standpoint is not inviting, and it is only natural that capital should seek localities that afford the best opportunities. The latest advice from the secretary of agriculture is that there is reason to believe that at least a score of new factories will be erected in the sugar beet belt of the United States in time for the next crop, and that as a means of demonstrating the advantages of certain localities, particularly with reference to growing the beets successfully by the farmers, experts are being employed to superintend the cultivation of large areas, with a view to making the strongest showing possible. The matter of uniform good results is of vital importance in sugar beet production from a commercial standpoint. Iowa results seriously lack that uniformity, as will be observed from an examination of the accompanying records. It is altogether natural that this should be so. The methods of successful beet culture are an innovation in Iowa agriculture. It requires years of careful study and experience to attain the required results. When the first sugar beet factories were established, both in the United States and Europe, the best beets that could be grown averaged only 6 per cent sugar. The application of skill and intelligent methods has brought the beet up to its present high standard of 12 to 18 per cent, and the same care and thoroughness are necessary to sustain and advance this standard.

"It has been suggested that the Iowa experiment station take up the work of giving extensive instruction in sugar beet growing in various sections of the state, when called upon to do so, in order that the beets grown may be brought to a higher standard, and thereby be made more encouraging to the investment of capital in the establishment of factories. This course would undoubtedly lead to results of very much greater value than any work that has yet been done. The only way by which this work could be taken up practically and satisfactorily, however, would be by putting skilled men in the field at different places in the state, to remain on the ground as long as necessary to properly superintend every operation in producing the crop. It is to be regretted that the present condition of the station funds will not permit of the adoption of this plan, however beneficial or desirable it may be. The station already has extensive work in progress in the various lines of practical agriculture, and the demand for its publications has increased so much of late that the additional expense involved makes it impossible to publish all of the results of the past year's sugar beet investigation in detail.

"The magnitude and importance of this subject and its vital bearing on all the material interests of the state call for such action as will put the resources of the state in the most favorable light."

ENTOMOLOGICAL SECTION.

HERBERT OSBORN, ENTOMOLOGIST; ELMER D. BALL, ASSISTANT.

Work in the entomological section has followed lines laid out in previous years, and a principal subject of investigation during the biennial period has been the insects affecting grasses, especially those minute but enormously abundant forms included in the family *Jassidae*. The importance of these insects is but partially appreciated, owing to their smallness and the fact that their insidious work, while a constant drain on pastures and meadows, is seldom of a character to attract the attention of the casual observer. A considerable contribution on the life histories of these, including some species that are injurious to garden crops and to orchard trees, and which may be considered a continuation of the paper in Bulletin No. 34, is presented herewith.

The correspondence relating to injurious insects has been quite extensive and embraces a great variety of species.

Many farmers were apprehensive of a recurrence of the outbreak of the army worm, which caused considerable loss in 1896, but from the past history of the insect I felt warranted in predicting that there would be little, if any, trouble this season. The outcome of the season supports the past history for the species, and it may be considered as very exceptional if a year of great army worm depredation should be followed by a second of the same nature.

Early in spring numerous specimens of the apple plant louse were received from widely different parts of the state, and usually the twigs accompanying the specimens were found to be thickly set with the eggs of the insect. Considerable injury resulted, and doubtless the apple crop was somewhat affected by the sapping of the blossom buds; but the injury did not continue beyond the first few weeks of the season.

Later in the season plum trees were seriously attacked by plant lice, and very extended injuries resulted, in some places the plum crop being materially affected. The use of kerosene emulsion, where promptly applied with suitable apparatus, gave good results, but considerable complaint of inefficiency of this measure was heard, and in order that the best results be secured it is necessary to insist on thorough work with an apparatus capable of driving a fine mist to all parts of the infested leaves.

The outbreak of the Hessian fly noted for the northwestern part of the state has been watched during the past season, but in most of the localities has been less serious than in 1896. In many fields there was a certain amount of injury, a small proportion of the wheat falling down from the attacks of the insect, but in most cases this was so slight as to attract but little attention. The matter is of importance, however, as a slight increase would result in a marked reduction of the crop.

Owing to the extreme danger of the appearance of the San Jose scale in the state we have naturally given close attention to this pest. While no occurrences have as yet been detected in the state, there is of course the probability that it has gained a foothold in some quarter, but without as yet attracting such attention as to bring it to our notice. Early in the season a press report was distributed and published in the papers of the state, calling attention to the dangers of introduction, and in Bulletin No. 36 an illustrated article is included so that it is hoped any possible occurrence may be immediately recognized.

No effort should be spared to prevent, if possible, the introduction of this formidable pest, or the prompt extermination of it in any locality where it may gain a chance foothold. It is known to winter well in Minnesota and to be a most serious pest in many of the northern states, so we must look upon it as a menace to the fruit industry of the state.

LIFE HISTORIES OF LEAF HOPPERS (JASSIDÆ.)

SPECIES AFFECTING GARDEN CROPS.

The Agallia.—The members of this genus are all small, compact little leaf hoppers from one-fourth to one-eighth of an inch in length, with short, transverse head, and stout bodies entirely concealed by the thick elytra. In color they are either grayish or slaty, according to the species. There are usually two round black spots on the head between the eyes, and in most of the species another pair on the pronotum, together with various other dark markings. The different members of the genus are widely distributed throughout the world, the greater number of species, however, occurring in North and South America.

The species are very difficult of separation and little has been published in regard to their food habits or life histories. During the past season the three following species have been under observation and their larvæ and the general facts of their life histories determined. In order to correctly determine the species under observation, as well as those sent in from other states for determination, a systematic study of the genus was undertaken, the complete results of which will be published elsewhere.* The genus was found to be separable into three groups, of which the three species treated are typical illustrations as far as structural characteristics of the adults are concerned, and the known facts in regard to the larvæ and life histories of the other species indicate that they too will be found to be very similar within the groups. In general the species were found to be widely and generally distributed and subject to little variation except in depth of color. The three species treated, though by no means limited to that area, are all that are now known to occur in the northern and eastern part of the United States, while in the southern states *constricta* replaces *punctata* and extends along the Atlantic coast to New York, but it is in the southwestern states and down into Central America that the majority of the species occur. The species are all single brooded, in northern latitudes, at least, and the larvæ agree in feeding on stems near the ground and hiding under rubbish.

A. punctata Prov. (Plate I, Fig. 1).—This is the broadest one of the three species, being only a little more than twice longer than wide. In color it is an obscure yellowish brown, shading to smoky on the elytra, with two large round black spots on the head between the eyes and another pair near the hind margin of the pronotum. Length, one-sixth inch (4 mm.)

The larvæ are short, stout, reddish brown forms very unlike the adult in appearance, so much so that they have been mistaken for adults of another

family and so described; the head is flat and bears two "horns," thin, flat processes extending forward between the eyes; the thorax is broad and flat while the abdomen is compressed and armed on top with a deeply notched crest, the body is covered with small hair bearing tubercles, and to these adhere small particles of matter adapting it to its surroundings.

The eggs are rather large for the size of the adult, being one mm. long, slender, slightly curved their whole length, round at one end, tapering to a slightly flattened acute point at the other.

Life history: The adults appear early in the spring and may be found feeding on the different food plants until late in June. They were the most abundant about the middle of May, and frequent examination showed that the eggs are not deposited until late in the month or early in June. The larvæ appear in July, and develop slowly throughout the fall, becoming nearly full grown to pass the winter and issue as adults in the spring again.

Its natural habitat seems to be in shady woods, where the larvæ conceal themselves in the dead leaves, etc., and feed near the base of the stems of a number of species of compositæ, cruciferæ che nipodiaceæ, etc., but its economic importance comes from the fact that it finds in horseradish, cabbage, spinach, sugar beets, and other garden vegetables the shady conditions essential, and it was on horseradish and sugar beets that the larvæ were found in the greatest abundance, and from which most of the observations were made.

Remedies: Where these insects become numerous upon a cultivated plant the most effectual treatment known at present is the kerosene emulsion spray, and to be most effectual it should reach the protected larvæ at the base of the leaves.

Agallia novella Say (Plate I, Fig. 2).—This species is about the same length as the preceding, but much narrower, the general form being wedge-shaped, narrowest behind, color reddish or slaty gray, with two spots on the head, as in *4 punctata*, two more on the pronotum, placed much further forward than in that species, nearer the middle than the back margin; in addition to these, there are two small spots just within and behind the eye, and a narrow light line along the middle of the elytra. Length, one-sixth inch (4 mm.)

The larvæ are smaller, but very similar in form and color to those of *4 punctata*, except for the shape of the head, which is entirely different; the head has a sharp upper margin projecting upward between the eyes; this projection is slightly cut in the middle, forming two saucer-like lobes; they are more active than those of the preceding species, and can spring several feet when the plant is disturbed, making them more difficult of capture or observation. They occurred at the same time and on the same plants as those of *4 punctata*, and the only difference noted was that the males were as common as the females, while in the latter species the males are apparently very rare.

Agallia sanguinolenta Prov. (Plate I, Fig. 3).—This species is very different in appearance from the two preceding, being much flatter and more compact, the elytra are variously ornamented and the veins dark and distinct, while in the former two the elytra were unicolorous and the veins light. The head is proportionately longer, with two large spots, the pronotum may be entirely grayish or with dark markings, but not in the shape of two round spots; the elytra vary much in color, being often nearly transparent, with only the veins dark, but in the darker forms there is a dark saddle with a light center. Length one-eighth inch. The larvæ are very plump, active little forms, whitish, with two dark spots on the head, a number of lines on the thorax and a black ring around each segment of the abdomen.

REPORT OF ENTOMOLOGICAL SECTION.

Fig. 1.



Fig. 2.



A. novella



Fig. 3.

A. sanguinolenta.



PLATE I.

This species prefers open, sunny locations, and occurs in great abundance in almost every conceivable situation except damp and shady woods. The adults deposit eggs early in the spring, from which the larvæ appear toward the latter part of May, the earlier ones becoming full grown by the end of June, while the majority continue well into July and some as late as August; the adults may be found from the first of July on through the season, hibernating over winter to deposit eggs in the spring again. From the early appearance of the larvæ it may be that some of the eggs are deposited in the fall, and if such is the case those females probably die, as every female examined in early spring contained eggs.

In cultivated areas they feed largely upon clovers, especially white clover, doubtless because it is not so rank a grower and does not shade them; they also feed on a large number of weeds and garden crops, and have been noted particularly on sugar beets.

SPECIES AFFECTING ORCHARD AND SHADE TREES.

Macropsis apicatis O. & B. (Plate II, Fig. 1).—This is a bright pea green species, nearly one-fifth of an inch (5 mm.) long and something less than half that wide; the head is very short and rounding, scarcely longer on the middle than at the eyes; the pronotum is large and strong with numerous fine transverse wrinkles; the elytra are strong slightly leathery, longer than the body, with somewhat irregular, raised veins and the surface covered with fine white hairs.

The eggs are white, nearly one millimeter long, and one-third millimeter wide, slightly spear shaped, one side nearly straight, the other swollen near the head and cut off obliquely at the smaller end. The eggs destined to pass the winter are deposited just beneath the epidermis of the smaller twigs, and almost invariably in a transverse position, sometimes obliquely, and often from two to four or five in a series side by side. Evidently a check or slight rupture of the epidermis furnished the point of entrance for the ovipositor, as eggs are almost invariably adjacent to such a check and at right angles to it, and a slight elevation or swelling is the only surface indication of the presence of the eggs.

They may be so plentiful as to give a rough appearance to the bark in places, and while not apparently producing distortion of the twigs, probably because they are placed so close to the surface as not to affect the growing tissue, the fact that many of the twigs affected are deadened at the tip would indicate possible injury in this manner. The eggs occur mainly on the under surface of the twig, but whether this position is to give the egg more uniform conditions by protecting it from direct sunlight or to the avoidance of strong light by the adult, or some other reason, is a matter of conjecture. The deposition of the summer eggs has not been observed, but it doubtless coincides with that for the winter brood.

The larvæ are stout and short, similar in color and shape to the adult, but entirely covered with coarse bristle-like hairs, rendering it easily recognizable. Larvæ and adults were found in abundance on the new growth at the end of the twigs of Honey Locust, towards the end of June, occurring in hundreds on a single tree, and although isolated trees, trees in hedgerows, and those in the native timber were examined, as well as others in different parts of the state, none were found entirely free from this insect. The larvæ had all issued by the last of the month, the adults remaining abundant until towards the end of

July, another brood of adults appearing later in September and on into October, and the eggs were deposited late in the fall, being found in the twigs during November. The larvæ and adults seem strictly confined to the one host plant, being found on the young stems and in the axils of the smaller twigs. Where these occur on shade trees of special value they could easily be destroyed by the use of kerosene emulsion in early summer.

Bythoscopus distinctus V. D. (Plate II, Fig. 2).—General form similar to the preceding, about one-third smaller, head green, reduced to a curved line bordering the rounding pronotum, narrower than the dark brown eyes. Pronotum greenish, coarsely pitted with black, darker behind eyes; scutellum triangular, green, with the corners black; wings with a broad band at base, the tip and a narrow band before it, black. In light specimens the whole wing is of a grayish slate, except for a black spot in the place of the middle band.

Larvæ stout green forms with thicker, blunter heads than the adults, nearly straight margined, with a few long hairs projecting forward; body large, plump, abdomen ridged above, the sides with a flap-like margin which fits around the sides of the leaf stem or twig on which the insect rests.

This species occurs in abundance on black walnut and butternut and adults have been found on hickory and hackberry, but only where they were adjacent to the first named trees. Full grown larvæ and freshly issued adults were found the second week in June; a few days later the larvæ had all issued, the adults remaining abundant until into July. The second brood of larvæ appeared before the middle of August, the adults again in the latter part of September, to hibernate and deposit eggs in the spring.

Genus Pediopsis.—The members of this genus are all very similar in form and appearance, though widely different in color. Though closely related to the two preceding genera, they may be distinguished by the fact that the lines on the pronotum all run towards the tip of the head, while in the former two they run across. The species all agree in being tree-feeders, both as larvæ and adults, and as far as known are all single brooded, the time of appearance varying somewhat, but all agreeing in passing the winter in the egg stage. The genus as a whole is widely distributed throughout the temperate regions of the world, and each species usually confined to a single kind of tree or to those closely related. Though strongly and variously colored they invariably mimic the part of the tree upon which they occur, the larvæ and adult often being differently colored and frequenting different parts of the same tree.

Pediopsis tristis, V. D. (Plate II, Fig. 3).—This is a large, narrow, grayish-brown species from one-fifth to one-fourth of an inch long (5-6 mm). The head from above appears only as a narrow line from the eyes around the angular point of the pronotum. The pronotum has a narrow light margin behind and is covered with fine light hairs. The wings are slightly transparent, setting off the dark margined raised veins, easily recognized by the face below, being light greenish with a large black spot in the middle below the eyes and a band on the margin above.

The larvæ are very similar in form to those of *B. distinctus*, but the abdomen is not as strongly ridged, and the head is broader. They are reddish-brown above, marked with whitish on some of the sutures, and with four dark margined light spots in the form of a square on the body. The whole surface is covered with fine white hairs, giving a light reflection. The face is light with a large black spot as in the adult. The species seems to be strictly confined to plum trees, to which it is admirably adapted in color. They were



found to occur most abundantly on the native plums, but have been taken from cultivated varieties. The larvæ appear in May and have all issued as adults by the end of June. The first adults appear about the third week in June and are found abundantly throughout July, disappearing before the middle of August.

Pediopsis trimaculata Fh.—This is a small, dull-brown species with from one to three pale spots on the wings, and in fresh specimens the body is covered with a yellowish bloom, making it appear much lighter. It is about one-third smaller than *tristis*, lacks the black spot on the face and the prominent veins on the wings; otherwise it is very similar in appearance.

The larvæ are like the preceding in form, somewhat smaller, reddish-brown in color, the face being entirely dark brown, there are two white stripes running the full length of the abdomen and the crest is white behind the middle.

They occur on plums with *tristis*, usually in greater abundance than that species, but their color so closely mimics that of the bark, even to the powdery "bloom" of a young twig, that unless they move they are scarcely discernible.

Pediopsis viridis Fh.—The females of this species are about one-fourth of an inch long (6 m. m.), similar in form to the others, but of a uniform leaf-green color when alive, changing to a yellowish-green in the dried specimens. The males are smaller, nearer one-fifth of an inch (5 mm.) long, and are dirty greenish or brownish in color.

The larvæ are of the usual pattern, bright green with prominent red eyes the head is about the same length throughout as at eyes, the abdomen not as strongly crested.

This is the most common species of the genus throughout the greater part of the United States, occurring on most, if not all, of the different willows. The larvæ appear in May and mature the last two weeks in June, the adults from the middle of June until into August.

Pediopsis ferruginoides V.D. (Plate II, Fig. 4).—This is a very pretty rusty red species a little larger than *viridis*, being nearly one-fourth of an inch long (5 mm.). The females vary from reddish orange all over except for a large transparent spot between the ends of the wings to dark reddish brown—in this case the light spot extends clear across the wings, dividing the dark up into two parts.

The larvæ are yellow and brown in a general imitation of the adult, the head and pronotum yellow, the rest of the body brown with a transverse band across the back of the wing pads and another across the abdomen.

They occur on the narrow leaved willows, very commonly. The nymphs were found early in June from which the males began to issue late in the month and the females by the first of July. The males soon after disappeared, the females remaining through the month.

Genus Idiocerus.—This genus, like *Pediopsis*, is composed of species that occur both as larvæ and adults on different species of trees; they are also distributed over the temperate regions of the world, a large number of species occurring in this country.

Though very variable in size and color they agree closely in form, being characterized by their broad, short heads, the head across the eyes being wider than the rest of the body, the wings are long and usually narrow at the tip so that they appear wedge-shaped, very much as in *Agallia novella*; they are, however, much larger than that species and are further distinguished by the antennæ of the male, bearing a dark colored inflated disc-like portion near the tip.

The larvæ can be distinguished from those of the other tree inhabiting forms by the broad head and the long, slender abdomen which is nearly round and lacks the crest on top and the flaps on the sides of the two former genera. They are mostly two brooded, some, if not all the species, passing the winter as adults.

Idiocerus alternatus Fitch (Plate III, Fig. 1).—This common species is slightly over one-fifth of an inch (5 mm.) long, with a broad head curving around the pronotum, the middle bears a large reddish brown blotch, just outside of which on top there are two small black spots on a yellow band that extends to the eyes. The pronotum is reddish brown and usually there is a white stripe down the middle. The wings are partly transparent, the veins being dark in some places and light in others alternately, a light spot near the center of the sutural line.

The larvæ are usually greenish with brown rings on the abdomen; some few that occur in more exposed situations are brownish all over. There are four black spots in a line between the eyes in front, not seen from above. The brown rings on the abdomen are made up of about twelve hair-bearing spots on the hind margin of each segment.

The eggs are about 1 m. m. long by 1-5 mm. wide, cylindrical, slightly curved, tapering gradually to a point at one side of the smaller end and cut off obliquely to an obtuse point on the opposite side at the large end. They are deposited in the young wood near the tip of a branch usually close to a bud, sometimes singly, more often three or four near each other; in either case the twig would enlarge at the spot and finally burst open and display the end of the egg in the seam; if many eggs were deposited in a twig, as was the case in the cage experiments, it usually died, while if only a few were deposited in a place, as was the case in the field, it sometimes continued to grow although weakened and distorted. The final result on the trees under observation was that over one-third of the branches had their tips killed back or distorted, usually the main stem and the bigger branches being most affected, probably owing to their more rapid growth in the spring, offering a more favorable place for deposition than the slow growing side branches.

Life history: The adults pass the winter under the leaves and rubbish in the woods, becoming active quite early in the spring; some eggs were deposited before the middle of May, and from then on nearly through the month. The first larvæ were found the last week in May, when a number hatched in the cages and a few were found in the field, the majority not appearing until into June, the egg stage lasting nearly three weeks, in the breeding cage, where the temperature was fairly constant; probably a little longer under the changeable spring weather out of doors. The larvæ burst through the projecting top of the egg and are active from the start. When first hatched they are nearly white, except for their red eyes; the head is nearly twice the breadth of the body. Within a few days they become greenish in color and much larger proportionately. The larvæ are abundant throughout June and well into July, the adults beginning to issue the first week, and from then on through the month, remaining abundant through August. The second brood was not as closely watched. The larvæ were taken early in September, and the adults appeared soon after, remaining abundant until cold weather sent them under cover.

Idiocerus brunneus O. and B. (Plate III, Fig. 3).—This is a larger species than *alternatus*; scarcely longer, but much broader; easily recognized by its cin-

Fig. 1.



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Fig. 2



L. moniliferæ



Fig. 3.



L. brunneus

Fig. 4.



A. striatulus

PLATE III.

namon brown color. The head is very broad and short, with two large black spots between the eyes, and two smaller ones including the ocelli. The larvæ are very distinctly colored, being dark reddish-brown on the sides and across the wing pads, leaving a nearly round reddish or yellowish spot on the head and pronotum, another on the abdomen between the wing pads, and an egg-shaped one behind, or the last two may unite. The whole body is covered with long, coarse hairs, and the antennæ have a black spot, as in the adult.

This species also occurs on willows, along with the preceding. The larvæ become full grown in June and September, the adults being most abundant in July, and again in the fall.

Idiocerus monoliferæ O. and B. (Plate III, Fig. 2).—This is a larger species than *alternatus*, and usually somewhat darker; over one-fifth of an inch (5.5 mm.) long and one-twelfth inch wide across the head. The head is yellowish on top, with two black spots. Below this, on the face, is a black band from eye to eye. The pronotum is dark reddish-brown, with a light stripe in the middle and a spot on each side. The scutellum has a black spot in each corner, and two small ones in the middle. The wings are nearly transparent, milky, with the veins black and white alternately in three rows of each color, being black at the tip and light at the base.

The larvæ are large, well marked forms. The top and sides of the head are dark brownish; near the middle a yellow patch, with two large black dots, these dots much nearer each other than in the adult. The body is yellowish, with a pair of brown spots on the pronotum, a few brownish marks on the wing pads, and the sides of the abdomen brown, leaving an oblong yellow patch on the top.

The larvæ were found on cottonwood trees early in July. They were over half grown, and the adults appeared toward the last of the month. The larvæ and adults are both well adapted in color to the mottled appearance of cottonwood bark.

Idiocerus verticis Say.—Still another species occurring on willow, and closely resembling a small *alternatus* has been referred here. It is considerably smaller than *alternatus* and lacks the black marking of the head except for two black dots; the pronotum and wing are light while the scutellum bears a black spot in either angle. The larvæ have not been determined. The adults appear the last of June and again in September.

Idiocerus snowi G. and B.—This species is somewhat larger than *alternatus* being over one-fifth of an inch (5 mm.) in length, the head is not as broad or as rounding, being only slightly curved in front, color green, the eyes reddish brown, a stripe down the suture of the wing, and two small round spots on the head black.

The larvæ are stouter and have blunter heads than the former species. They are entirely light green except the eyes, which may be blackish, and two black spots on the head between them. They have the row of hairs on each abdominal segment as in *alternatus*, but they do not arise from black spots, and the second pair of black spots on the head of that species is never present,

This species has been found abundant on willows in sheltered situations and it is probable that it will be found to be a more southern species than the preceding one. The larvæ were taken in June, becoming full grown by the last of the month. The adults were found very abundantly from the last week of June on into August and again late in September and on into October.

Idiocerus maculipennis Fitch.—This is a very bright, chestnut brown species with light markings. The head is very short and the eyes curve around the pronotum and do not stand out as in the willow species; the face is light yellow with a red stripe down the middle and two large black spots on the sides above. There is a light spot on the pronotum, a V-shaped mark on the scutellum, and another of the same color on the wings; the outer margins of the wing are very dark except for a white patch before the tip.

The larvæ are dark reddish-brown, sometimes blackish in color, with broad blunt heads and prominent eyes. They are very active and though readily seen they are very hard to capture, dodging around a limb whenever approached.

They occur very commonly on hawthorn and crab apple trees, the larvæ appearing in May. The earlier ones mature in the middle of June and the last in the early part of July, the adults being common in the latter part of June and through nearly all of July. The adults were again common the last of August and early in September.

Idiocerus provancheri V. D.—Very similar in form and color to the preceding, color more of a reddish-brown with a large oblique patch at the base of each wing yellow. They occur in less numbers along with *maculipennis* and evidently have about the same life history. The larvæ are not separated from those of the other species.

Idiocerus cratægi V. D.—This species also occurs on the same trees as the two preceding, and usually in as large numbers. This season it was rarely met with, however, and no larvæ were found. It is probably two-brooded as with the others, as the adults have been taken in former years both early and late in the season.

The adults are rather shorter and blunter than the other two and are light green with six black spots in two rows, two on the head, two on the pronotum and two on the scutellum.

SPECIES AFFECTING GRASS CROPS.

Genus Athysanus.—The members of this genus are, like those of *Deltocephalus*, confined to grasses for food plants, both in larval and adult stages. Most of those under observation have been found to be very closely limited to one kind of grass, and usually adapted both in size and color to harmonize well with their surroundings. It is hard to define the group as a whole, but they usually possess bluntly pointed heads and broad wings, which may be longer or shorter than the body, often both forms occurring in the same species.

A number of the species have been found to have but one brood in a year. The most of these, as *comma*, *colon*, *striatulus*, *magnus*, etc., occur as larvæ in the early part of summer, maturing soon after the middle of June, the adults common on into August, depositing eggs which remain over winter. *Extrusus* however, passes the winter as a larvæ and matures in early spring, the adults common from the 1st of May until into July. Of some of the smaller species, as *curtisi* (Plate IV, Fig. 1) and *obtus*, two broods is the probable number, though little can be added to the former report, except that in the case of *curtisi* the first brood of larvæ appear early in May, the adult males appearing the second week in June and the females the third, continuing abundant into August. From this time on the larvæ of other species interfered with accurate observations, as in the former case. The larvæ spoken of as occurring in July must have been of some other species.

REPORT OF ENTOMOLOGICAL SECTION.



Fig 1 *A. curtsii*



Fig 2. *Scutellina*



Fig 3 *D. gammaroides*



Fig 4. *D. robusta*

Athysanus extrusus V. D. (Plate V, Fig. 1).—Stout and short, over one-fifth of an inch (5 mm.) long and nearly half that wide, head short, no longer than the pronotum, wings shorter than the body in one form which does not fly—longer with the wing fully developed in the other form which flies readily. Color, brownish-yellow to dirty straw, usually with four irregular dark marks on the head. The male is somewhat shorter than the female and has a pair of long strap-like styles extruded from the abdomen behind.

The larvæ are short active forms, yellowish with reddish and fuscous markings after moulting, darkening up until they reach a chocolate brown with fuscous markings on the head and four rows of white spots on the abdomen. The legs and body are sparsely clothed with long stiff hairs.

Life history: They are found only in shaded locations, occurring most abundantly on rich bottom land pasture where the underbrush has all been cleared out, leaving only the larger trees. Here the larva were found January 1st, less than one-third grown. The day was warm and they were very active. They were again observed about the first of April. Spring had fairly opened and they were a little larger than during the winter. They mostly moulted April 6th and again April 14th; the first adults began to appear about the first of May, these being males; the females began to appear a week later, and by the middle of May they had all issued. The adults were abundant from then on into July. Frequent examination showed that the eggs were not deposited until late in June or July, from which the larvæ hatch late in the fall and pass the winter in the larval state.

Athysanus striola Fall.—This species somewhat resembles the preceding in size and striation of the head, but is otherwise quite distinct; the head is much broader than the body, which tapers back to the narrow tip of the wings, color green, tinged with yellow, a narrow black line across the head between the ocelli and the margin black, sometimes a curved line on the pronotum dusky.

The larvæ are olive brown with markings almost as in the adult, the head is more pointed and there are two dots between the stripe and the margin and two more against the eyes.

This species occurs only on low swampy ground; a few full grown larvæ and an abundance of adults were found on a low, swampy meadow where a species of *Juncus* abounded.

Athysanus striatulus Fall (Plate III, Fig. 4).—Another slender species, with long wings reaching well beyond the abdomen, about one-sixth of an inch (4 mm.) to the tip of the wing in the female, the male being shorter and much smaller; testaceous brown, with dark markings on the pronotum and wing; markings arranged in about three interrupted rows, sometimes obscure.

The larvæ are narrow, brownish forms, with a slightly more pointed head than the adult; the dark markings are nearer the margin, except two spots near the base; there is a row of spots across the pronotum, two pairs of large spots on the wing pads, and a smaller pair between the posterior ones.

This species is found abundantly over grass areas of the prairie in various parts of the state. The larvæ were found very common the last of May and on into June. The males began to appear by the middle, and the females a week later. The males disappeared by the second week in July, the females remaining until into August, the eggs having been deposited before the end of July.

Lonatura catalina O. and B. (Plate IV, Fig. 2).—This is a very small species—so small that one cannot determine without a magnifying glass whether it is

an adult of this or the larva of some other species that is under consideration. It presents a very good illustration of the adaptation of the size of the insect to the size of the host plant. It is also interesting from the fact that it occurs in many different forms and colors, each one being essential to the existence of the species. It is in this respect somewhat comparable to a colony of ants. The most common forms are the short winged ones, in which the outer wings only cover about one-half of the abdomen and the inner ones are mere scales. These forms cannot fly and are never found away from a colony.

The females are about one-tenth of an inch long (2.5 mm.), and are of a light brown-yellow color; the males are scarce one-twelfth of an inch long, and are of two kinds, one a bright orange-yellow and the other brownish black with a touch of yellow on the head. Besides these, there are long winged forms, in which both pairs of wings are well developed and extend beyond the body. The females are grayish-yellow, while the males are dark brown or nearly black.

They are found on the species of *Sporobolus* that form rather thick, mat-like patches of grass, and there they occur in marvelous abundance. The larvæ appear before the middle of May, similar in form to the short winged females, nearly white when small, becoming a lemon-yellow when full grown. From these larvæ both the long and short winged adults appear before the middle of June. The short winged forms are the most numerous, and remain through July, depositing eggs for the second brood. The long winged forms remain for a few days where they have hatched and then fly away to start new colonies. The second brood of larvæ appear in July, from which the adults issue in August and remain through the fall. There appear to be fewer long winged forms in the fall than in the spring brood.

They have been collected at Burlington, Little Rock and Sioux City, Iowa, as well as at Yankton, S. D., as commonly as at Ames, and they will probably be found to have as wide a distribution as the species of grass upon which they occur.

As the grasses affected by this species are in some places of considerable value for pasturage, this insect assumes an economic importance far out of proportion to its insignificant size.

Driotura gammaroidea V. D. (Plate IV, Fig. 3).—This is another species that occurs in several different forms. Though not as abundant where it does occur still it has been found from Iowa and Minnesota to Colorado and Wyoming, and as far south as Kansas, this probably due to its larger size, rendering it more readily recognized.

The short-winged one occurs in two color forms, the more common one being shining black while the other one has the tip of the abdomen and the short wings that cover less than half of the abdomen orange yellow, the rest of the body being shining black. The females are about one-sixth of an inch (4 mm.) long and about half that wide, with a plump body and a short head; the males are shorter and rounder, the long winged form is shining black with broad leathery wings that reach to the tip of the abdomen. The wings are very broad at the tip and make this form appear much larger than the short winged form with its tapering abdomen.

They appear on upland prairie regions where the grass most abundant is *Andropogon scoparius*, and though there are usually a number of grasses mixed with this the probability is that this is the host plant. This species has not been found where this grass does not occur, and is most common where

there are but few other grasses present. The larvæ are very much like the short winged forms, the head is a little wider and the abdomen has a few coarse hairs. They pass the winter nearly full grown and issue as adults early in the spring. The eggs are slightly more than one mm. long, cylindrical two-thirds their length, tapering to a rounding point. They are deposited about the middle of May, from which larvæ appear in June, maturing about the first week in July and continuing for about two months. Larvæ appear the latter part of August and early September, becoming nearly full grown to pass the winter.

Driotura robusta O. and B. (Plate IV, Fig. 4).—Another and very similar species to *gammarioidea* was found as adult and full grown larvæ at Little Rock and Sioux City, Iowa, and at Sioux Falls, S. D., the first week in July, and larvæ were taken at Audubon along with those of *gammarioidea* September 25th, indicating that it has a similar food habit and life history. It has also been received from Colorado.

The short winged forms are similar in size and general appearance to those of *gammarioidea* but for their gray color, being finely and irregularly mottled with black on a light ground; there is a complete collar across the pronotum and down around the lower part of the face. The larvæ are reddish-brown with light stripe across the face and another across the abdomen behind the middle.

Dorycephalus vanduzeei O. and B. (Plate V, Fig. 2).—Another still more grotesque species than *platyrhynchus* was found on high upland prairie at Little Rock, Iowa, July 1st. This makes the second species of this remarkable genus for Iowa and the third for the group, the only other known species having been found near the Ural river in Russia.

This species is considerably over half an inch (14 mm.) long and only about one-tenth as wide; the wings in this form are about one-third the length of the abdomen, hardly as long as the head, and can be of no use. The head is long and leaf-like, the entire insect much resembling a straw. Two females were taken from the place where the most abundant grass, and the only one that would appear to have a stem large enough for the deposition of their eggs or for the adults to rest upon was *Sporobolus cuspidatus*. If their life history agrees with that of *platyrhynchus* those taken were the last of the single brood, the males having disappeared before. They will doubtless be found to have a long winged form, as the species could not survive without some means of distribution and it seems probable that all the males will be long winged forms as in *platyrhynchus*.

Phlepsius altus O. and B. (Plate V, Fig. 3).—This is a shorter and stouter species than *irroratus* with a shorter rounder head and broader wings which are generally flaring at the tip. The head is only a little longer in the middle than at the eyes, about half the length of the pronotum. General color dark reddish-brown, from the innumerable fine lines and spots on a light ground, a number of clear white spots on the wings and a row of alternate white and black spots on the outer margin. The species of this genus are very much alike in color and it is only by very careful study of structural characters that they can be separated. The broad short form of this species, however, separates it from the other species occurring in Iowa.

The larvæ are very broad and short, even more so than the adult, the head being longer proportionately. They are of a dark grayish-brown, sometimes with a reddish cast, being in fact dirt color as near as that color can be imi-

tated. They are found in abundance wherever *Bouteloa hirsuta* (Blue Grama) occurs. In Iowa this grass is only found on the high prairie land, usually capping the hills, so that this species has a somewhat local distribution. Further west where the Grama grasses form a large part of the grazing this species may be expected to occur very generally. The species is single-brooded, the larvæ appearing by the middle of May as small almost round gray specks clustered on the ground around or in among the stems of the grass clump, springing a foot or more away if disturbed. Toward the last of June they become full grown and may be found on the ground under the edge of the clump so closely resembling the dirt and rubbish as to be scarcely noticeable. The adults appear the last week in June and the first week in July and remain in decreasing numbers through August.

Phlepsius nebulosus V. D. (Plate V, Fig. 4).—Very similar in form and color to *irroratus* but much larger, being about three-eighths of an inch (9 mm.) long and about one-fourth that broad; the head is less broad and less pointed and much thinner on the edge.

The larvæ are broad and flat with longer and flatter heads than the adult, the abdomen tapering to a sharp point, clear creamy yellow with innumerable fine brown points arranged in wavy lines, a light stripe down the middle and three rows of spots on each side of the abdomen, the outer row with black margins. The eyes are dark red and there is a dark spot on either side of the tip of the head.

Nearly full grown larvæ were found the third week in June in clumps of *Panicum virgatum* (Switch grass) feeding upright on the broad stems which they much resemble in color. Placed in the cage they issued as adults the first of July. Adults were taken from the last of June through July, seeming to stay closely to low ground where the grass occurs.

EXPLANATION OF PLATES.*

PLATE I.

FIG. 1.—*Agallia 4-punctata*: a adult; b nymph, lateral view; c nymph; d face; e wing; f female, g male genitalia.

FIG. 2.—*Agallia novella*: a adult; b lateral, c dorsal view nymph; d face; e wing; f female, g male genitalia.

FIG. 3.—*Agallia sanguinolenta*: a adult; b lateral, c dorsal view nymph; d face; e wing; f female, g male genitalia.

PLATE II.

FIG. 1.—*Macropsis apicalis*: a adult; b face, c female, d male genitalia; e nymph; f eggs in bark; g eggs greatly enlarged.

FIG. 2.—*Bythoscopus distinctus*: a adult; b face; c female, d male genitalia; e wing; f nymph.

FIG. 3.—*Pediopsis tristis*: a adult; b face; c female, d male genitalia; e nymph.

FIG. 4.—*Pediopsis ferruginoides*: a adult; b face; c wing; d nymph.

PLATE III.

FIG. 1.—*Idiocerus alternatus*: a adult; b female, c male genitalia; d wing; e larva; ff eggs in twig; g egg.

FIG. 2.—*Idiocerus montiferæ*: a adult; b female, c male genitalia; d wing; e nymph.

FIG. 3.—*Idiocerus brunneus*: a adult; b female, c male genitalia; d wing; e nymph; f base, g tip of male antenna, greatly enlarged.

FIG. 4.—*Athysanus striatulus*: a adult; b female, c male genitalia; d wing, e nymph.

* All the figures in these plates are from drawings made under the direct supervision of the authors by Miss Charlotte M. King. All figures are enlarged, the natural size being shown by hair lines at side.

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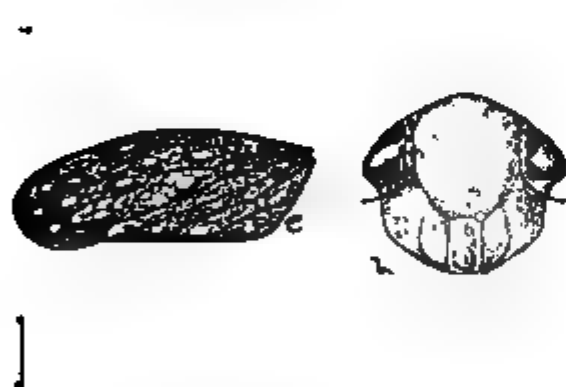


Fig.



1

a Fig.
Fig. 4



Euchalcinus

PLATE IV.

FIG. 1.—*Athyeanus curtisii*: *a* adult; *b* face; *c* female, *d* male genitalia; *e* wing; *f* nymph.

FIG. 2.—*Lonatura catalina*: *a* long-winged female; *b* short-winged male; *c* short-winged female; *d* face; *e* female, *f* male genitalia; *g* wing; *h* nymph.

FIG. 3.—*Driotura gammaroidea*: *a* short-winged female; *b* long-winged female; *c* face; *d* female, *e* male genitalia.

FIG. 4.—*Driotura robusta*: *a* adult, short-winged female; *b* face; *c* female, *d* male genitalia; *e* nymph.

PLATE V.

FIG. 1.—*Athyeanus extrusus*: *a* short-winged female; *b* female, *c* male genitalia; *d* larva.

FIG. 2.—*Dorycephalus vanduzeei*: *a* adult; *b* face; *c* lateral view of head; *d* female genitalia; *e* wing; *f* leg.

FIG. 3.—*Phleptus altus*: *a* adult; *b* face; *c* female, *d* male genitalia; *e* wing; *f* nymph.

FIG. 4.—*Phleptus nebulosus*: *a* adult; *b* face; *c* female, *d* male genitalia; *e* nymph.

 BOTANICAL SECTION.

L. H. PAMMEL IN CHARGE.

I have the honor to report concerning the work of the botanical section for the biennial period. The botanical staff has given most of its time to a study of grasses, as this constitutes an important item for the farmer of Iowa. No other single agricultural product has as much value as the grass and hay crop. We have in connection with the chemical section, studied not only the more important native grasses, but the cultivated as well. We have also made a special study of weeds, especially mustards, since many complaints were made in different parts of the state that these were a great menace to the proper cultivation of crops. A considerable portion of our time during the past year has been devoted to a study of corn. This work contains an account of smut, its injuries, corn rust, and other diseases. We have also considered the relation of corn to climate, and the improvement of our corn.

We made some extensive experiments in the germination of corn. It was observed that much of the 1895 crop germinated well, but the poor stand in many cases was due to abnormal and unseasonable weather.

Mr. Ball has given special attention to a study of commercial seeds. In many cases seeds are not up to the required standard as regards germination.

Mr. Combs has made a careful study of alfalfa spot disease, one of the most destructive enemies of the alfalfa.

Jointly with Mr. Mead a paper was published on germs found in milk as delivered to the creamery. Tainted milk was due to bacteria. These germs, when isolated, had very characteristic odor.

HORTICULTURE AND FORESTRY SECTION.

J. L. BUDD IN CHARGE.

In experiments with new varieties of vegetables, cereals, or small fruits, important results can be reached in five years. But this is not true of experiments with forest trees, fruit trees, or ornamental trees and shrubs. The recent dry seasons and the general lowering of the water level have materially added to the value of the results of trials of forest trees, fruit trees, ornamental trees and shrubs planted from fifteen to twenty-one years ago on high and low land. At this time only some very brief summaries can be given, on account of limited space.

FORESTRY PLANTATIONS.

In 1876 and 1877 about ten acres were planted with our leading native forest trees, four feet apart each way. The land selected was four knolls with thin soil, with the parts of the valleys between dry enough for plowing. The trees were all well cultivated until the tops shaded the ground fairly well. During the first ten years all species grew well on the high and low lands. With the advent of the dry season the trees were thinned on three of the knolls, while the fourth one, planted with green ash, has been left for thinning itself by the survival of the fittest. On knoll No. 1, where the box elders have died or dwindled to scrubby, dwarfed specimens, as a rule, and the Catalpas are not much better, other species have made growth as follows: Black oak, 43 inches in circumference, one foot above the ground; Riga pine, 43 inches; basswood, 39 inches; Austrian pine, 36 inches; red cedar, 23 inches; catalpa, 21 inches. In the case of the box elder and catalpa, the trees measured were the exception and not the rule. In the other cases, average trees, not too much crowded were taken. On low ground at base of knoll the box elder, catalpa, basswood and hard maple have made large and even growths.

On knoll No. 2, the plantation was made largely with white pine and European larch, alternated with box elder and green ash. These nurse trees have been crowded out, as a rule. But where standing in open spaces on the hill they are small in size, low and scrubby. The white pine on the hill is the king tree. Many of the trees are 44 inches in circumference and 50 feet in height. The best larches are 37 inches around, and about as high as the pines. Both these species show an even stand, and are as good on the high as on the low land. On the low land the box elder and the ash have held their own.

Knoll No. 3 was planted largely with black walnut and butternut alternated with box elder, white elm and green ash, with some black wild cherry. On the bottom black walnuts stand fifty feet high with stems twenty-nine inches around. The only tree among them not crowded out is the white elm which

in height and thrift is nearly its equal. In open spaces at some distance from the walnut the box elder is equal in diameter, but not in height. As we get on the hill the black walnut is dwarfed in size and bearing very diminutive nuts, and many have died from effects of the drouth. The butternuts grew well on the hill until the drouth came, but now are dead or have dead tops. As the belief twenty years ago was that the butternut was a high land tree no specimens were planted on the low land. The only good thrifty trees on this hill are the European larch and black wild cherry. All through this plantation the black walnut has crowded out and dwarfed or killed all species except the white elm, larch and black wild cherry.

On the fourth knoll, with adjacent valleys, green ash was planted exclusively. With twenty years' growth the largest trees on low land are twenty-five inches in circumference. On the high ground the trees stand much better than where alternated with black walnut, white pine and larch, but they are small in size. It is now evident that this plantation would have been materially benefited by thinning ten years ago to eight feet each way.

CONIFERS ON THE CAMPUS.

Of the conifers planted on the campus during the past twenty years the species that have retained thrift and beauty in isolated positions in blue grass sod are white spruce, Black Hills spruce, silver spruce (*Picea pungens*), Douglas spruce, Douglas fir, Concolor fir, white pine, Black Hills pine, dwarf mountain pine, red pine, Riga pine, and some specimens of Austrian pine. Seedlings of the latter species seem to be variable in ability to endure extremes of temperature and moisture of soil. The black spruce, Norway spruce, common Scotch pine, common fir and American and European larch do not stand drouth as well in isolated positions in sod as in the timber plantations.

EXPERIMENTS WITH PLUMS.

Twenty-one years ago we found on the college farm a plantation of the Miner plum with some half dead specimen trees of the Lombard. In the Iowa nurseries at that time these were the leading varieties. During the succeeding six years we picked up several native varieties that had neighborhood notoriety. As instances we secured scions of De Soto from Wisconsin, of Rolling Stone from Minnesota, of Wolf from Page county, of Comfort from Pottawattamie county, of Wyant from a town lot at Janesville, Iowa, of Bixby from Edgewood, Iowa, of Maquoketa from Washington county, Forest Rose from Missouri, and the Pottawattamie from west Iowa. Some later we added to the trial orchard the Cheney from LaCrosse, Wis., the Hawkeye from H. A. Terry in west Iowa, Harts' De Soto from Clayton county, and other native sorts. At the summer meeting of the State Horticultural society, at Ames, fourteen years ago a majority of the members had never before seen a collection of fine native plums. It gave an impetus to their culture, as did also our distribution of these varieties to amateurs in a small way over the whole country.

In 1883 we introduced a number of varieties of the plum from Russia. These were also distributed in a small way. As none of the European plums came into bearing as soon as our natives, the Russian plums have been severely denounced by some nursery men. As it now appears they will have their greatest value in the south half of Iowa. At our last state fair the largest and best plums shown were of these varieties, and we have hundreds of reports

from those who planted ten years ago like the following from B. O. Curtiss, of Paris, Ill.: "The Russian plums have come to stay. I have been planting them now for ten years and have not lost a tree. The Russian plums I have are all hardy, productive and superior in quality. The English plums, like Lombard, are tender in tree and are winter killed when cold enough to kill peach trees." Over 500 amateurs in the south half of Iowa, Illinois and Indiana have made similar reports on about ten Russian plums and prunes that bear large and good fruit. Some of these are freestone and $2\frac{1}{4}$ inches in diameter. At Ames the past season the native plums were a failure while some of the Russians were well loaded.

HARDY PEACHES.

In 1883 we received some peach pits from Bokara in Central Asia and some scions from northwestern China. About ten varieties of these have proven at least 30 per cent hardier than any of the old varieties, and their fruit is large, freestone, and best in quality. We have had over 500 reports from the south half of Iowa and Illinois as favorable as the following: Hon. Silas Wilson, of Atlantic, says of Bokara No. 3, that it is fully 30 per cent hardier than any of the old sorts and the abundant crop of fruit is of the largest size, freestone, and high in quality. M. J. Wragg, of Waukee; Dr. Powell, of Glenwood, and many others have reported the trees hardy, fruitful, and that many of the specimens measure from ten to eleven inches in circumferences. Near Ames the trees planted twelve years ago are still alive and fruitful and even the past season were laden with fine fruit.

RUSSIAN CHERRIES.

A number of the varieties of the cherry were introduced by the writer from northeast Germany and south central Russia in 1883. They have been widely scattered in small lots for trial and some of them are a success across the continent and some good varieties have proven hardy in north Iowa and even Minnesota and North Dakota. In Ames the past season near thirty varieties were laden with from two to four bushels of fruit. Some visitors from Rochester, N.Y., said that they had never seen so many fine varieties loaded with fruit in any one locality. Hon. J. G. Berryhill was also a visitor and made the same report. All amateurs, not prejudiced in favor of the old varieties as propagators, report in regard to quality as does A. H. Terry, of Crescent, Iowa, who is an acknowledged judge of fruit. He says: "At Crescent not one of the Russian varieties will probably excel the Early Richmond in bearing, but in size and quality the most of them are vastly superior."

When the college no longer sends out trees at a small price, as will occur after the spring of 1898, the superior hardiness of tree and size and quality of fruit will no longer be questioned. As it now stands it is admitted by all that they will thrive and bear where the old varieties are a total failure.

RUSSIAN APPLES.

The college began to send out the most promising varieties of Russian apples about sixteen years ago in a small way to those who agreed to give them careful trial and in due time to report on their behavior. They are now being reported on by over two thousand experimenters across the continent. The amateurs everywhere report prizes among them. This is true even in South California and Florida. But their main value will be in the cold north where of the old sorts only the Duchess and Wealthy succeed. In Minnesota the

whole recommended list at present are Russian varieties or Russian seedlings. In north Iowa we have many reports like the following written by M. E. Hinkley, of Marcus, Iowa, after a visit in the orchard of P. F. Kinne, of Storm Lake, in north Iowa. He says: "The annual production for three years past has been from seven to ten hundred bushels. A dozen Russian sorts, all heavy bearers, are the special pride of the owner. Other fruit ventures in this vicinity lead to the belief that Storm Lake will be the Glenwood of north Iowa."

Mr. Kinne writes: "Without the Russians, orcharding of all kinds would be a failure in north Iowa. With them, the north has great possibilities." As it now stands, each experimenter has from one to ten prized varieties. Even Mr. C. G. Patten, of Charles City, says of the Good Peasant: "It is a beautiful apple. The tree is as hardy as Duchess, and for both eating and cooking is of good quality. Its season is from December to February." When summed up, as reported by 100 reporters, who have had them on trial for fifteen years, we find fully ninety varieties bearers of fine fruit for all seasons. As the years go on this statement will be more than verified. As to winter varieties, the statements made in Bulletin No. 3, of the Iowa Experiment station, are correct. As an instance, we say of Regal (No. 169): "A fine tree and early bearer. Fruit of medium size, and much like Rawle's Janet in color and flesh, and it keeps as well in north Iowa as the latter does when grown in the south district." Mr. P. F. Kinne, of Storm Lake, says of it: "No. 169 is my pet winter apple, as yet. The tree is as hardy as Duchess; the fruit is of fair size, and it keeps like Ben Davis." Of No. 410 (Repka Malenka), we say: On dry soil, as hardy as Wealthy; season, late winter here, and at the north it has been kept until the next July.

Mr. J. F. Swartzendruber, of Kalona, Washington county, Iowa, says of Repka Malenka: "It is perfect in tree, in heavy bearing, and as a long keeper; fruit of medium size, well colored, mild sub-acid, and good for the table or kitchen. It is good in October, but keeps in perfect condition until April, and even later."

In like manner we have reports from amateurs in regard to the keeping qualities, even in south Iowa, of Voronesh Rosy, Bogdanoff, Red Queen, Winter Aport, Boiken, Sklanka, Volga Cross, Zuzoff Winter, and a number of other varieties hardy in the north.

Among the benefits connected with our wide distribution of the Russian apples, not the least one is the opportunity it gives for natural and artificial crossing with our old standard varieties. From them will come in the near future the hardy varieties that will defy the test winters, and yet higher in quality of fruit than some of the leading varieties now grown in the southwest.

HARDY PEARS.

The pear in all countries does best on high ground, with good air drainage. The Russian pears introduced by the college in 1883 are as hardy in tree as the Duchess apple. On high ground, in north Iowa, they grow rapidly; start each spring from the terminal bud, and in due time produce from fair to good fruit. Those who have planted in low ground, with black soil, have usually lost their trees by blight. Some of the hardy varieties are really good in quality. As an instance, W. H. Guilford, of Dubuque, writes: "The Gakovsky (No. 347) pear you sent me bears well; is hardy, and free from blight. It is small, but really of high quality. This variety has made such a reputation here among orchardists that the demand for the tree cannot be supplied."

We have many reports as favorable of other varieties where planted on exposed ridges at the north. In south Iowa the variety most generally commended of our distribution is the Mongolian Snow pear. This has done well in the south half of Iowa, on all dry soils, and it is a fruit of good size and high quality.

SHRUBS AND ORNAMENTAL TREES.

As far north as Winnipeg and Indian Head in northwest territory, we have distributed many fine flowering shrubs and small ornamental trees introduced by the college from Europe and the Amur valley in Asia. Professor Hays of the Minnesota Agricultural college said last week while visiting Ames: "On my trip to Manitoba and Indian Head last summer I was surprised to find in perfect condition fine trees and shrubs sent out from Ames, such as a dozen varieties of caragana, the Russian snowball, Amur roses, some spiræas, half a dozen species of the barberry, several honeysuckles, Russian lilacs, the Shrubby Artemesia and several others. Scarcely a nursery catalogue can be found in the northern states that does not advertise some of the shrubs of our distribution.

OUR HYBRID FRUITS AND SHRUBS.

Our most promising crosses and hybrids are from prepotent ironclad mothers that come near to reproducing from seed. As examples, we crossed the blossoms of the wild rose of east Europe (*Rosa rugosa*) with pollen of our best garden varieties. The results have been a surprise, as in one generation we have secured double flowers and yet retained mainly the vigor and hardiness of the wild rose. With the gooseberry, we crossed the blossoms of the wild species of Manitoba with pollen of the Champion. In this case, about all the hybrids bear fruit of the size of the Champion, yet we retain mainly the hardiness of bush of the mother plant.

With the apple, we have used prepotent mothers, such as Hibernial, Duchess, and the Anis, and pollen of our best known winter varieties. As far as yet fruited, the fruit largely follows the variety used for pollen, and leaf and tree mainly follow the mother. In our work of hybridizing the plum, we have used our best native varieties for mothers, and the pollen of the Japan varieties, mainly for the reason that the European sorts do not seem to cross readily with our native species. With cherries and other fruits, we have adhered to the same principle of using prepotent ironclad mothers, and pollen from the best known sorts.

CONTEMPLATED WORK.

After the spring of 1898 the distributions to trial stations at a small price of fruit trees and shrubs now widely under trial will be discontinued. The purposes of their distribution are now accomplished. After testing and selecting, the new hybrids and crosses found worthy will be sent out to trial stations and those interested in advancing horticulture. The work of crossing will also be continued, as it is a very promising field of work in the prairie states since the advent of fruits hardier than the Duchess apple. Moretime will also be given to experiments in culture, object lessons in cordon and other training of trees and shrubs, and the extension of the college arboretum collections of shrubs and not least tabulating and recording the results of our trials and distributions to trial stations during the past twenty years.

REPORT OF THE VETERINARY SCIENCE SECTION.

DRS. M. STALKER AND W. B. NILES IN CHARGE.

Those who have interested themselves in the plan of organization of the Iowa Experiment station are acquainted with the fact that the several sections into which the station work is divided are presided over respectively by professors in charge of corresponding departments in the College of Agriculture and Mechanic Arts. A veterinary section is thus provided for. The work of this division has been directed to the accomplishment of two objects, both, of course, relating to diseases of domestic animals. The first is the ascertaining of causes, the methods of control and the treatment of diseases of an obscure nature; in other words, the work of original investigation. The second is the dissemination of useful and practical knowledge to the farming classes.

The legitimate field for this line of work seems naturally to be with communicable diseases, as only those maladies which assume epizootic proportions are liable to entail losses of a serious nature. Fortunately there are few diseases affecting our domestic animals that are so readily communicable or so fatal in their effects as to be cause of special anxiety to our farmers. Under restrictive legislation Texas fever has ceased to be in any sense a dangerous scourge, and only occasional isolated outbreaks occur from shipment of infected animals within our borders from across the danger line. Glanders and farcy among horses are practically exterminated in the state, though the writer found half the counties infected about a dozen years ago. Since the tuberculin test has been applied to the detection of tuberculosis, that disease is being hunted out in our dairy herds and on the breeding farms, and should the best knowledge on this subject be carefully and systematically applied to its control, the worst of all diseases affecting man and the lower animals will soon be materially restricted in its ravages. Swine plague and hog cholera, which probably cause more loss in this state than all other diseases of livestock combined, still exist without adequate remedy. It is not rational to expect a remedy for these maladies in the form of medicines for the cure of the disease. There is nothing in medical science to justify such expectation. The writer has claimed for fifteen years that the ultimate solution of the problem will be found in a rigid system of restriction and systematic disinfection. When the same system of sanitary police supervision is exercised over this disease that is now in use for the control of scarlet fever in every well regulated city, it will disappear with astonishing rapidity. What are known as cornstalk disease and pseudo rabies still make their periodic appearance among our cattle. Both of these diseases furnish abundant undiscovered fields for the scientist. This department called the attention of the general government to these diseases some years ago, but the scientific explanations as to causes and remedies are still reserved for settlement.

The veterinary section of the experiment station does the larger portion of its work in localities where outbreaks of disease occur, and through laboratory methods of investigation. As yet no buildings have been erected for the protection and care of experiment animals, where dangerous diseases can be safely dealt with. Small animals have been used for experiment work, but these have been confined in cages and by other extemporized methods. The erection of buildings adapted to the work of experimentation along these lines would greatly enhance the value of the work.

I append a few short articles which will serve to illustrate the line of work and the character of information given to the public through this branch of the experiment station:

INVESTIGATION OF BOVINE TUBEROULOSIS.

It is our intention to give in this bulletin, which is addressed especially to the farmers of the country, conclusions drawn from tests and experiments made at our station, as well as to present in a condensed form some additional and well established facts on the subject of tuberculosis.

The interests involved are so vast, and the adoption of wise and efficient measures are so important, the subject should receive the fullest discussion with all the available facts before us. Personal interest, and preconceived notions should not be allowed to influence our judgment. Recent discoveries and the application of new methods growing out of them, have led to the fear on the part of some that great harm is likely to be done the live stock interest. While much misleading and unprofitable discussion has been going on, science has been patiently observing facts and bringing new discoveries to light.

Some points have been effectually settled, truth has been approximated on others and yet there remains for settlement many of the practical details in dealing with the subject.

The scientific aspect of the question has made more uniform progress than the practical application of the facts discovered to the eradication of the disease. The scientist has only the difficulties of discovery to encounter. A variety of interests may be antagonized by the efforts at suppressing the disease and consequent opposition developed.

Within the last few years there has been a general awakening to the vital importance of this question all through the scientific world. The laboratories of the old world and the experiment stations of the new, are abundantly supplied with devoted students of sanitary science who are bringing every available means to bear on this question. From these diversified opportunities and fields of observation, the problem is being gradually wrought out.

Investigators working independently of one another have arrived at the same conclusions on a number of points. This method is sufficiently conclusive in its results to set at rest discussion among scientists as to the trustworthy nature of the conclusions, and to furnish an intelligent basis for restricting the evil. It may be well to summarize at least a partial list of the facts on which experimenters are so well agreed as to leave little doubt as to their accuracy. Much of the ground has been gone over by the agricultural experiment stations of the more progressive states, with remarkable uniformity as to results.

The following may be said to cover a portion of the ground that has been practically cleared from doubt.

- (1) Tuberculosis of the lower animals is identical with human consumption.
- (2) It is an infectious disease.
- (3) The disease may be transmitted from man to the lower animals and from the lower animals to man.
- (4) Tuberculosis causes more deaths in the human family than any other disease.
- (5) Cows are especially susceptible to the disease, and are extensively affected by it.
- (6) Milk from tuberculous cows may convey the disease to the consumer.
- (7) Milk from tuberculous cows having non-affected udders may convey the disease.

(8) The flesh of tuberculous animals may convey the disease.

(9) A large proportion of the cases cannot be recognized by clinical examination.

(10) No other test yet discovered, than that afforded by tuberculin, can detect any considerable proportion of cases in the living subject, and this test is practically infallible.

(11) Injections of tuberculin cannot produce tuberculosis, nor are the results harmful.

Any one of these asseverations can be successfully defended by observations made on the part of experimenters of unquestioned credibility. Most of them have been verified in our own station work.

It is now about a year and a half since the station began the work of applying in a practical way, and on a somewhat extensive scale, the tuberculin test. The purpose has been to satisfy ourselves as to the reliability of the test, the danger, if any, resulting from its use, and, by conducting a series of tests in various parts of the state, to gather information as to the prevalence of the disease.

METHOD OF APPLYING THE TEST.

For the benefit of those not familiar with the methods of making the test, a word of explanation will be in place.

First, the temperature of every individual in the herd to be tested is carefully taken and recorded at intervals of two hours during the day preceding the test. The average of these readings will give a pretty accurate test of the individual temperature of the several animals, which is recorded as the normal, with which any variations are to be compared. Before midnight of the day on which the trial temperatures were taken, the injection of lymph is made. This consists in injecting beneath the skin, with an ordinary hypodermic syringe, two cubic centimeters of tuberculin for every thousand pounds live weight of animal. The result to be expected is a more or less well marked rise in temperature shown by all individuals affected with tuberculosis. If the animal is free from the disease, no change of temperature will result. The rise in temperature will usually begin to manifest itself in from twelve to fifteen hours after the injection is made. From four to six hours later, the temperature in those showing reaction begins to decline, and gradually reaches the normal. It is upon this variation in temperature alone that reliance is placed for determining the presence of the disease. Every possible precaution should be observed, that the conditions may be the same under which the temperature was taken, before and after the injection. Varying conditions tend to slight modification of temperature, hence the necessity for the greatest precaution, that only the change resulting from the action of the tuberculin may be shown.

If a change of one and a half or two degrees occurs, this is sufficient evidence on which to condemn the animal. A rise of four or five degrees is not unfrequently noted. There is no well authenticated evidence that these marked differences in rise of temperature shown correspond to like difference in the severity of attack.

RELIABILITY OF THE TEST.

With this feature of the subject we are especially interested. If the results obtained should not show a fair degree of uniformity under like conditions, then the test may be discarded as useless. If the test proves a means of condemning healthy animals, it is a harmful and dangerous experiment, and should be discarded at once. If diseased ones fail to respond to the test, then it is to be regarded as a means of concealing, rather than pointing out, real dangers, and is worse than useless. With these thoughts before us, the work has been done with such attention to details as would insure a fair and impartial trial.

The conditions under which we have been obliged to work have not always been such as to allow all the privileges we could have wished for, in order to obtain the fullest results. It has not always been possible to secure for slaughter all the animals showing reaction. And as a matter of course we have not had the opportunity of performing autopsies on any considerable number of those that failed to show any reaction. These are regarded as healthy and are not usually disposed of in a way to afford opportunities for post mortem. Out of eighty post mortems made on animals showing reaction, not a single case failed to give evidence of tuberculosis. And in no case where an opportunity was afforded to examine the carcass of one failing to show reaction, was the disease found to exist. In other words, the test has not failed in a single instance in our experience. Occasional failures have been noted by other experimenters. Whether this was due to lack of attention to details in the work, to want of

searching methods in examining the cadaver, or to actual failure in the essential features of the test, we are not prepared to say. But it would not be a matter for surprise if there should be some contradictory results reported, owing to the many inexperienced hands into which the test has fallen. Our experience with the test, however, tallies so closely with the results obtained at other United States experiment stations, as well as scientific institutions throughout the world, that it may be said there is practically no disagreement among the workers in this field of investigation, as to the uniformity of the results. It may not be said of any drug in the pharmacopœia, that it is infallible in its action; that it was never known to produce other than its generally recognized effects, and that these invariably followed the administration. But this by no means breaks the law of uniformity or reverses the rule of action.

The New Jersey experiment station in its bulletin after detailing experiments made, summarizes its conclusions by saying, "Every case of undoubted reaction proved to be undoubtedly tuberculosis."

The Wisconsin station where careful tests have been made, publishes the results in bulletin form and gives expression to the following: "We have, then, in this agent a means of detecting the disease if we desire. The use of this agent is to be recommended."

Dr. Law in a bulletin issued from the Cornell University station speaks of tuberculin as possessing "The highest value as a test of tuberculosis in animals." He further says in the same bulletin, "This has now been employed on thousands of cows, and those who have used it most, value it most highly, whereas many who at first reported reactions in non-tuberculous animals are now acknowledging with Nocard that the fault has been mainly their own, for small tubercles were present but were overlooked through their failure to examine the bones and other organs."

The same observations have been made by workers in the Maine Agricultural College Experiment station. In the published reports of that institution we read, "With suitable instruments and professional skill it is comparatively easy for one man to examine a herd of fifty animals in less than twenty-four hours and detect every case of tuberculosis that may exist there."

The Massachusetts station, after a long and unsatisfactory attempt to rid the college herd of tuberculosis by the weeding-out process, decided to apply the tuberculin test. The bulletin of the station in speaking of the effort to free the herd from this disease without the application of the test, says, "That in all probability we should never have been able to accomplish this is shown by a study of the records of the tuberculin test." Both those that reacted and those that did not, were slaughtered, and the accuracy of the test fully demonstrated.

The North Dakota experiment station through its bulletin says: "We have taken pains to hold post mortems on all animals which have been tested up to date which yielded to the test, and in every one we have been able to demonstrate the presence of tuberculosis."

The conclusions of the Bureau of Animal Industry are thus summarized: "The number of instances in which the conditions indicated by the results of the injection do not conform to the conclusions founded on post mortem examination is so many times less the number of errors from all other methods used to diagnose tuberculosis, and there are so many cases of tuberculosis which could not possibly be detected by any other method, that even they who are least inclined to favor the use of tuberculin cannot fail to recognize its importance."

Our own station has had similar experience in dealing with the disease at home. No other means employed ever enabled us to free the college dairy herd from the disease. In every instance where post mortem proofs have been added to the findings of the tuberculin test, they have coincided. It is not necessary to multiply at length quotations from independent experimenters. They are to one and the same effect. But we have thought it worth while to present a very little of the mountain of evidence in support of this test to offset the reiterations of the objector. I have cited the most unbiased and trustworthy evidence; the observations of men employed by the government who have no occasion to become swift witnesses in support of any theory or any practice. Investigations carried on by the station authorities of Minnesota, Virginia and Arizona, the sanitary board of the Dominion of Canada and many other government stations and scientific bodies throughout the world might be drawn upon for added evidence to the proofs already furnished.

EFFECT OF TUBERCULIN ON THE HEALTH OF THE ANIMAL.

The statement has so frequently appeared in print that the use of tuberculin is harmful; that it induces tuberculosis, etc., that the results of our experience seem worthy of mention.

During the fall of 1894, ten cows that had previously reacted to tuberculin, received a second and a third injection. These animals were situated on different farms, and received the same treatment as the balance of the herd. No bad results followed in any way and in no case was the process of the disease apparently hastened.

During the spring and summer of 1895 three cows have been receiving regular injections of tuberculin. At this writing no unfavorable results have been shown.

Dr. Pearson of the Pennsylvania Experiment station says in discussing the probable danger from the use of tuberculin, "The experience of the State College Agricultural Experiment Station herd is also against this theory, because its members have now been tested with tuberculin three times, each time being injected in practically the same spot and not the slightest evil result has manifested itself, although the period of observation now extends over two and one-half years."

A bulletin issued by the experiment station of Cornell University, after detailing a series of experiments on this subject, says, "So far as there is evidence before us, everything points to the harmlessness of a single test dose on a sound animal system."

The experience of the Minnesota station furnishes conclusive proof of the same nature.

THE UNCERTAINTY OF OTHER TESTS—THE MILK TEST.

It has not been alone the purpose of the station to prove or disprove the reliability of the tuberculin test, but to compare its value as a diagnostic agent, with other means of recognizing the disease. To this end a large number of tests have been applied to cows from which samples of milk had been subjected to examination.

Much has been said through the public press in favor of this method of detecting the disease and determining the dangerous quality of the milk. Samples of milk taken from cows in charge of the experiment station, which are known to be tuberculous, were submitted to microscopic examination. These samples were declared to be free from the bacilli. This being the microscopic test of contamination there could be nothing done but to pronounce such samples free from danger as far as this test applies. However, as above stated, the cows have been proven tuberculous beyond question. Again, in ten herds, where from 5 per cent to more than 50 per cent had been pronounced tuberculous by the microscopic examination of the milk, not a single case of tuberculosis could be found by the most painstaking test. Conversely, eight cows in one herd were proven by the tuberculin test to be affected. They were slaughtered and all gave the unquestioned proof of being tuberculous. These had passed the ordeal of microscopic test of milk with a clean bill of health, though two of them were found on post mortem examination to have milary deposits throughout the udder.

These experiments have convinced us that the plan of microscopic examination of milk is altogether untrustworthy as a means of detecting the disease.

PHYSICAL EXAMINATION.

In cases where the herds were being subjected to the tuberculin test, careful physical examination of suspected and non-suspected cows have been made. These tests have proven to us that it is impossible to detect any considerable proportion of the cases in an affected herd, by the most careful examinations of this nature. Cases that have presented no evidence to the senses on which to condemn, or even to suspect the presence of disease, have reacted to the test, and post mortem examination has in many cases revealed extensive tuberculous lesions. These have been found in all parts of the body, including extensive diseased conditions of the mammary glands.

EXPERIMENTS IN FEEDING THE MILK OF TUBERCULOUS COWS.

The use of milk on experiment animals for the purpose of artificially inducing the disease in otherwise healthy individuals is a practical way of putting to the test, some of the theories as to sources of danger. If the milk from tuberculous cows, either taken in the ordinary way, or injected directly into the circulation, can induce tuberculosis, the fact becomes one of no ordinary moment. The significance of the experiment has a two-fold importance.

First—It enables us to account for many cases of the disease in young cattle. It has been shown by repeated observations that congenital infection is rare. However, calves but a few months old are frequently found to be infected.

Second.—If milk from tuberculous cows possesses infectious properties, the health and safety of the human family becomes the important part of the question. If feeding the milk to lower animals under ordinary conditions will induce the disease, there is no avoiding the conclusion that it can be induced in the human family under the same conditions. This experiment has been repeated with sufficient frequency, and under conditions to prove the certainty of results beyond question. If milk is contaminated with the bacilli of tuberculosis, it will convey the disease. But under what conditions will the milk be so contaminated, is a question for separate solution. It has been vehemently claimed that only milk from cows with udders in which the disease was localized, was to be regarded as in any sense dangerous.

An exhaustive series of experiments was undertaken by the trustees of the Massachusetts society for the promotion of agriculture, with a view of gaining light on this question. One of the experiments consisted in feeding twenty-one healthy calves on milk from tuberculous cows. At the conclusion of their experiment they report: "Of these twenty-one animals, eight, or over 33 per cent were shown to be tuberculous. That the cows from which the milk for these feeding experiments was derived were free from tuberculosis of the udder, is shown by the following table (table omitted) of their history, and the results of the post mortem examination." They draw the following conclusions:

"The possibility of milk from tuberculous udders containing the infectious elements, is undeniable."

"With the evidence here presented, it is equally undeniable that milk from diseased cows with no appreciable lesion of the udder may, and not unfrequently does, contain the bacilli of the disease."

Dr. McKenzie reports that in cases where there were no lesions of the udder, but where tubercular deposits were found in other parts of the body, the milk in 40 per cent of the cases proved to be infectious.

This is in accord with the best evidence on this subject, and especially does the extensive scientific work of Bang, of Copenhagen, coincide with these results.

Our station made experiments on three calves from tuberculous mothers. Two were allowed to take the milk from the mothers. These cows were but slightly affected, the udders to all appearances being free from disease, and no bacilli were detected in the milk when examined under the microscope. Both of these calves developed tuberculosis. A third calf from a tuberculous mother was not allowed to take the mother's milk, but was taken as soon as born and kept on the milk of a cow that had been tested and found to be healthy. This calf never showed reaction when tested with tuberculin. It was slaughtered at the age of three months, and thorough examination failed to detect any sign of disease.

This experiment tends to show that calves from tuberculous mothers are not necessarily tuberculous at birth, but that infection will take place when the udders are healthy and when there is no external evidence of disease.

ORIGIN OF THE DISEASE IN IOWA.

It is quite impossible to trace accurately the appearance of the disease in our state. We have known of its existence among our cattle for twenty-five years, and undoubtedly it traces back to a very early period in the history of our cattle industry. We first became acquainted with it in herds of well bred cattle; especially those that were represented by imported individuals. Comparatively little was known at that time of the history and real danger from the disease, and nothing of the modern methods of detection. But long before there were any laws on our statute books making provisions for control of contagious diseases, we assisted many of our breeders in their endeavors to get rid of tuberculosis by selecting out and destroying the affected individuals in their herds. The introduction of imported animals was doubtless an important factor in the introduction of the disease.

TO WHAT EXTENT DOES THE DISEASE PREVAIL IN IOWA?

The work done through this department during the last eighteen months; the occasional discovery of a seriously affected herd, and more frequently less severe outbreaks, have led to the frequent repetition of this question.

While a considerable number of tests have been made, and these in various parts of the state, we are not yet in possession of a sufficient amount of evidence on this point to furnish more than an approximation to a definite answer. The evidence of the existence of tuberculosis has been demonstrated over and over, but to attempt to deal with percentages, would be to enter the field of conjecture. It must be kept in

mind that tests have been made where some form of disease was known to exist, or was believed to be present. The unsuspected herd has not, as a rule, been tested. Under these circumstances, the number of cases found to be diseased in proportion to the whole number tested, will greatly exceed the general average of cases in the state to the entire number of cattle. Again, the proportion of affected individuals in a diseased herd, varies greatly. The time during which the disease has existed, the conditions under which the animals have been kept, whether closely confined or in the open fields; these and many other conditions will have a marked influence on the degree to which the herd had been invaded. We append the figures taken at random from tested herds, that will show the extent to which the disease prevailed in these instances.

About fifty herds have been tested in the counties of Black Hawk, Kossuth, Story, Boone, Page, Harrison, Sac, Wapello and Floyd. Taking 873 animals as they occur in these herds that were subjected to the test, 123 reacted and were pronounced tuberculous. These facts give some suggestions as to the distribution of the disease, and the per cent that may be reasonably expected to react in herds that are reported for examination.

HOW THE INFECTION IS EXTENDED.

A living vegetable organism, the bacillus tuberculosis is the reproductive agent which gives rise to the disease. When this germ finds lodgement in suitable tissues, and is uninterrupted by any antiseptic agent, or opposing force, it tends to multiply with a certain degree of rapidity, and the result in the affected tissue is the deposit of tubercle. Any organ of the body may be assailed, though lymphatic and other glandular tissue, the lungs, liver and spleen are parts particularly prone to be the seat of disease. Any animal affected with the disease becomes a center of infection from which the disease may spread. Its distribution is never rapid, but a single case in a herd is certain to be followed by others in the course of time if unrestricted co-habitation is allowed. The bacilli are coughed up or expelled from the body through other channels. These may be at once conveyed to the body of a susceptible animal, or they may lie in a dried and dormant condition for months and be revived into activity when implanted in a suitable soil. Every individual going out from an affected herd becomes a menace to the animals with which it is brought in contact. Doubtless the sale of breeding stock has had more to do with the general distribution of the disease than any other one agency. A general indictment cannot be entered against the breeding stock of the state, but many of our breeders can testify to the trouble they have experienced in their endeavor to free their herds from the scourge.

INFLUENCE OF MANAGEMENT ON EXTENDING INFECTION.

The fact is admitted by investigators generally, that the character of the buildings exert a certain influence, either for or against the dissemination of the disease. It is a universally admitted fact that cattle kept in ill-ventilated, underground barns, with inadequate air space, furnish favorable conditions for increased contamination. This has been our own observation in conducting examinations on herds so situated. This fact has been emphasized to the extent that some have come to the conclusion that this cause alone furnishes practically all the explanation that is necessary to account for the disease in our herds. Not so. Bad sanitary conditions can no more originate the specific poison of tuberculosis than the virus of smallpox can be developed by the same methods. Both diseases may be aggravated and the cases multiplied by such exposure, but neither disease can be so generated. It is by no means true that extensive invasion of any given herd is to be found only when the animals are kept under such conditions. Some of the very worst outbreaks we have investigated were confined to animals that had never been kept in barns. In one herd of forty-one animals, six had died during the latter half of the summer, and ten more were found diseased by the tuberculin test. These were all slaughtered and the tubercular conditions verified by post mortem examination. This herd was at pasture, and had never been kept indoors. From another herd of twenty-eight animals five died in the course of three months. The tuberculin test found nine additional cases. These had never been kept in any better quarters than in an open plank barn. Here were two herds that led practically an out-of-door life, yet they were both rapidly dying out. The station has made abundant observations of a similar nature in other instances. If an infected individual is brought into a herd of perfectly healthy animals, it becomes a menace to the health of that herd, no matter what the conditions are under which the cattle are kept, so long as they cohabit in an unrestricted way. Let no man flatter himself that

his herd is safe in the presence of a single case of tuberculosis, no matter what the extent of acres over which they may range. True, these favorable conditions will lessen the chances of infection, but they cannot remove them. Several instances have come under our observation where badly affected animals came from the best kept breeding herds in the state.

Cases that are fairly established may be hastened rather than retarded by outdoor conditions, when these mean exposure to all the inclemency of the unfavorable season. The protection of a comfortable barn, though not in the very best sanitary condition, may prolong life beyond the period that would be reached were the creature forced to fight for existence against storms and sudden changes of temperature.

WHAT ARE THE SYMPTOMS OF THE DISEASE?

This is one of the questions most frequently asked by the farmer. It is a difficult question to answer, because of the extent of detail involved in making a full statement of the case. From what has been previously said in these pages, it will be understood that almost any organ of the body may be the seat of disease. The symptoms will be correspondingly various. The pulmonary type, or that form of the disease in which the lungs are extensively affected, may be said to be the typical form. In nearly all cases where the disease is allowed to run its course, the evidence of lung affection will become apparent before death relieves the animal. This form of the disease is attended with difficult respiration, high temperature, frequent and feeble pulse, painful cough, failure of milk, emaciation, diarrhoea and finally death. Occasionally the first symptoms may be severe lameness from tubercular deposits in the articulations. Swelling and abscesses about the throat and the udder of cows, are not unfrequent manifestations. When non-vital organs are the first seat of the disease the animal may continue in a fair state of general health for months, and even years. Doubtless there are occasional cases of final permanent recovery. The disease in nearly all cases assumes a chronic type, which is misleading to the owner. But it must be accepted at once and for all, that it is impossible to detect any considerable proportion of the cases at any given time, by the most searching physical examination of the expert. If it is the fixed purpose of the owner to find the real extent of the infection in a diseased herd, he must have recourse to slaughter, or apply the tuberculin test.

RELATION OF MEAT AND MILK SUPPLY TO PUBLIC HEALTH.

That the mortality in the human family from tuberculosis exceeds the death roll from all other infectious diseases put together, is a generally admitted fact. Statistics place the death rate from this cause as high as 14 per cent. At some of our Indian agencies where the habit of eating uncooked meat is a general one, the mortality statistics show that 50 per cent of the deaths is due to tuberculosis. It is a very difficult matter to determine approximately how much of the mortality from human consumption is to be attributed directly to infection from the lower animals. The causes in most of the cases are so hidden in obscurity that a definite explanation is impossible. But there is abundance of positive proof and still more collateral evidence to show that the food supply derived from the animal kingdom is no small factor in the distribution of the disease.

There are few experimenters, who have been close observers of these phenomena, who cannot cite cases that point at least in the direction of these conclusions.

One case came under our observation where five young people between the ages of twenty and thirty years died of consumption from one family during a period of two years. Not a trace of the disease had ever been known in the family of either the father or mother of the victims. On the farm where the deaths occurred we found seventeen cases of tuberculosis in the herd of cattle, and others had died before the investigation was made.

Another bit of history in connection with a diseased herd that was under test, is worthy of mention. A mother and child died; the mother from undoubted consumption; the child from intestinal trouble highly suggestive of the same disease. The cow that had supplied milk to the mother and child was tested and found to be tuberculous. Post mortem examination of the cow revealed a badly tuberculous condition of the udder. Similar observations on the part of other station workers and practicing physicians have been made so frequently that the conclusion is unavoidable that to some extent to our meat supply, and in a much larger way to our milk supply can be traced many of the cases of tuberculosis in the human family.

HOW CAN HEALTHY HERDS BE SECURED, AND HOW CAN THEY BE KEPT FREE
FROM DISEASE?

This is the practical question toward which all the others tend. It is of little consequence to know that disease exists unless that knowledge can be made to aid us in averting the evils we have found. The means by which total extermination of the disease can be accomplished, do not seem to be in sight. So long as there remain cases of consumption in the human family, there remains the possibility of occasional reinfection of bovines. But the probabilities of infection from this source are remote, and should not be taken as arguments against any restrictive measures that might be adopted.

While absolute extermination of the disease at once may not be practical, we believe it to be entirely feasible to so far restrict its dangers, as to render them of slight consequence. The state has already with small expense, eradicated the disease in a considerable number of dairy herds. And what is of more value to the public at large than freeing these herds from disease, it has demonstrated the possibility and the practicability of the plan, and has done much to educate the people as to the sources of danger. The result is that many owners of herds have voluntarily, and at their own expense, had the tuberculin test applied, and the diseased animals destroyed. The work the state has done is in this way being supplemented; and the practice of testing dairy cows is likely to have a very large increase in the future, without the aid of compulsory measures. Once the herd is free from disease, it can readily be kept in this condition by exercising due precaution in the introduction of fresh stock. Dairy men who have had unfortunate experience with the disease have adopted the practice of admitting none but tested cows to their purified herds. This practice, if uniformly adopted, would very soon render the dairy herds of Iowa free from tuberculosis. If in addition to these precautions, similar vigilance were exercised over the introduction of breeding stock to the herds, the chief sources of infection could thus be shut off. If restrictive measures of this kind were applied to these two classes of cattle, practically all the cases of tuberculosis in the state would soon be found, and its ravages reduced to the minimum. The measures adopted in a few score of dairy herds in the state, if applied to the remainder, would go very far toward eradication. It is possible to reach most important practical results without the expenditure of large sums of money or the sacrifice of important interests.

All animals suffering from the disease in any of its stages should be at once removed from contact with other cattle. It is our judgment that any plan which contemplates keeping tuberculous animals on the farm, and attempting to avert danger by segregation and other like precautionary methods, will defeat its own ends. The less the number of possible sources of infection in the country the more successful will be the efforts at eradication. Buildings where tuberculous animals have been confined are to be regarded as infected, and no healthy animal should be assigned quarters in such enclosure till thoroughly disinfected.

It is true a single test may not in every instance free the entire herd. After-infection may take place. It would be wise in those cases where a number of badly affected animals have existed, to take the precaution of applying additional tests some months after the first. All this involves care, the expenditure of a certain amount of money, and the occasional loss of an animal. But the animal already suffering from an infectious and highly fatal disease, can not be considered to possess any high value. The inconvenience and expense attending such precautions are small in comparison with the loss and risk involved in allowing the disease to run its natural course in the herd, and the sale of dangerous products for human consumption.

HOG CHOLERA AND SWINE PLAGUE.

BY W. B. NILES.

The subject of hog cholera is such an important one to the people of Iowa that a brief article in these pages setting forth some of the main facts that have been observed in our work here, and elsewhere by others, seems warranted. While we have nothing to offer in the way of a specific cure and cannot point out the way by which the disease can be easily eradicated, a careful study of the facts herein set forth will enable the painstaking swine owner to more successfully deal with the two prevalent epizootic diseases of swine—hog cholera and swine plague.

The above named diseases are often described under the name of hog cholera, but it is now recognized by scientists that two diseases exist, due to different germs (bacteria) and presenting somewhat different symptoms. Both are widespread and may exist in the same herd, also in the same animal, at the same time. As it requires a very careful study of an outbreak of swine disease—the after-death examination of several that have died or been killed for the purpose and a bacteriological study of the blood and organs—before it can be determined whether but one or both diseases are present, it has not been definitely learned which disease is most prevalent. Our experience in this state goes to show that here, at least, the two diseases are often associated and that uncomplicated swine plague is seldom met with. The experience of the writer in another state (S. O.) points to the same conclusion. Hog cholera is probably the most prevalent and the cause of the greatest loss.

Both diseases are due to a specific virus, and communicable from one animal to another. The germ of hog cholera differs from that of swine plague by being slightly larger, having power of movement in liquids, and by developing outside the body when conditions are favorable. The virus of both diseases enters the body of the hog with food and drink, or in the inspired air.

When the disease, usually known as cholera, first appeared among Iowa hogs, is not definitely known. The probabilities are that the disease was originally imported from England and appeared in Iowa and the adjoining states in the late fifties. From this time on, outbreaks became more frequent, until in 1878, when the commissioner of agriculture appointed ten investigators to study the disease in those sections of the country where it most extensively prevailed, one was assigned to Iowa. Since that time the disease has more or less extensively prevailed every year. In 1886 the state veterinarian stated in his report that "hog cholera probably occasions more loss directly to the stock growing interests of the state than all other diseases combined."

The affection varies greatly in the extent of its ravages from year to year. In some seasons the number of outbreaks is comparatively small, while in others the loss is very great. In the past two or three years the disease has prevailed as an epizootic over a greater portion of the state. Director Sage, of the Iowa Weather and Crop Service, shows in his recent report that for the past season the loss has been 20 per cent of the entire number of hogs in the state.

The symptoms of both hog cholera and swine plague have been so often described that a detailed description of them is not necessary here. In the main the symptoms of the two affections are very much alike, and cannot be differentiated by the casual observer.

Partial or complete loss of appetite, a tendency to lie about in bunches in the nest, more or less coughing, and a purple color of the skin most marked along the abdomen and inside the thighs, are among the most prominent indications of disease noticed. In some outbreaks diarrhoea will be an early and constant symptom, while in others the reverse will be the rule. Again the disease may for some time attack only young pigs, assuming such a mild course that the true nature of the affection will not be suspected. In different outbreaks the symptoms vary so much that the most experienced may not be able to diagnose the trouble without making an after-death examination of one that has died. I wish to call especial attention to this fact, *that one herd of hogs suffering from cholera may present entirely different symptoms from another herd having the same disease.* For example: During the past summer a well qualified veterinary surgeon wrote me regarding a swine disease raging in his neighborhood which he did not diagnose as cholera, but which from his description I am satisfied was genuine cholera. Correspondence with a Nebraska farmer who had written to an agricultural paper, and had been informed in reply that his swine had indigestion or some other complaint due to improper feeding, revealed that his herd also had genuine hog cholera; for when instructed what to look for after death the characteristic changes of cholera were observed. Much has been written about "so-called cholera," and the statement is often made that "in the fall and early winter all diseases of hogs are reported as cholera." Other diseases of swine are no doubt occasionally reported as cholera, but it is my belief that such a mistake is not often made, and I wish to state emphatically that when a large per cent of a herd of swine die and apparently the same disease occurs on neighboring farms, the disease is either hog cholera or swine plague. A few other diseases may cause considerable loss in a herd, especially of young pigs, but I have yet to find an instance where a majority of even a single herd have died from another cause, and anyone having disease in his herd, involving a considerable per cent, should be suspicious of one or the other of the above mentioned diseases.

While the symptoms may be obscure, and the first attacked in the herd linger so long with a mild attack as to throw the owner off his guard, an after-death examination, especially on an animal that has been sick for some time, will reveal the presence of one or the other of the diseases under discussion. Hog cholera being principally a disease of the intestinal tract, the greatest changes are looked for there. The most characteristic occurs in the first part of the large intestine. Small, circular patches, slightly elevated above the surrounding membrane, and varying in size from a pin head to a quarter dollar, usually dark in color (sometimes of yellow cast), are found on the inner wall, near where the small gut enters. These ulcers, as they are termed by Dr. Salmon, of the bureau of animal industry, are found best developed in an animal that has been sick for several days. When the patient dies suddenly, they will not be observed.

In swine plague the chest cavity is the principal seat of the disease, and the lungs will be found inflamed and more or less adherent to the chest wall. Large portions of lung tissue are often completely hepatized (solidified), and frequently the chest cavity contains a considerable quantity of serum. As before stated, both diseases may exist in the same animal, and then the intestinal and lung changes may be seen in the same subject.

A more practical question, and one much discussed at the present time, is: "How are these diseases originated, and how communicated from place to place?" For a proper understanding of these questions, it is necessary to remember that both affections are communicable and due to a specific germ, without which the disease will not exist. Being due to a specific virus, spontaneous origin is impossible, just as is the case of glanders in the horse or smallpox in man. No system of feeding, or exposure to bad sanitary conditions, or any other sort of treatment, will originate, without the presence of the specific germ, any communicable disease of man or beast.

Remembering that the presence of the virus is essential to the production of an outbreak of cholera, it will be readily understood that the diseased animal is the most dangerous source of infection. A careful study of cholera outbreaks shows that very many of them can be easily traced to animals that have been purchased and brought into the herd while sick, or after having been exposed to the disease, or to wandering animals from adjoining farms. Two years ago outbreaks were started in many sections of the state by shipping in stock hogs from Nebraska. Many of these Nebraska hogs had been exposed before shipment, and consequently became conveyors of the disease wherever they were taken. It is true that there are many other ways by which the germ may be carried, for example, by beasts of prey, carrion birds, streams of water, feet of attendants in muddy weather, etc., but the living diseased or exposed animal must always be regarded as the most dangerous of all.

Recognizing that the disease has its origin in a specific germ which was probably imported from England, and is kept alive by herds in different sections of the country, and that the disease spreads by being communicated from diseased herds to those unaffected, the question arises as to what part may be played by secondary causes? At the present time some writers contend that while the presence of the germ may be essential in the production of an attack, it cannot alone produce disease; that it must be assisted by other causes. The same ground has been taken regarding cholera in man and tuberculosis in cattle. The writers referred to contend that as the greatest loss prevails in the corn growing belt, the almost exclusive corn diet is the necessary assisting factor in producing the disease, and that if a mixed diet were fed, the disease would be much less prevalent. Others contend that as the outbreaks usually occur at that season of the year when new corn is being fed that the green corn is actually the cause of the disease; others think that our improved breeds of swine have such a low resisting power that they contract the disease when the bacon breeds would escape. Let us notice these theories briefly.

First—Is the hog cholera germ alone capable of producing disease without the aid of other causes? After a study of many outbreaks affecting different breeds kept under different conditions, I am firmly of the opinion that virulent cholera virus will produce an outbreak of cholera without the action of secondary causes. It is true that there is some difference in the susceptibility of animals to the plague, and also a difference in the virulency of the germ from different outbreaks. No breed of swine, however, can be considered exempt from cholera. I have seen the celebrated razor-back on his native heath die as rapidly as our most improved breeds in the north. The celebrated bacon breeds also readily contract the disease when exposed, as was shown the past season at the experiment station. I am satisfied that the greatest

loss occurs in the corn belt, principally because more hogs are kept and the chances of communication are better. The keeping of an animal in vigorous health by observing the proper rules of sanitation and feeding, will render it to a certain extent less liable to any disease, but such care will not grant immunity against our swine epizootics. I have stated that in some instances the germ is more virulent than at other times. This, and the difference in susceptibility that animals may possess, probably accounts for the mildness of some outbreaks and the virulency of others. When a herd having great resisting powers is exposed to virus from a mild outbreak, a mild form of cholera will result, and vice versa. There are probably several factors which may influence the severity of an outbreak. The condition of the soil, temperature and amount of moisture present, no doubt play important roles. Again, a mixed outbreak of the two affections may be more severe than an attack of hog cholera or swine plague alone. Bad sanitation I consider renders more assistance in the spreading of cholera than all other secondary causes. This does not act so much, as some suppose, by weakening the animal, as by rendering the development and transportation of the germ easy.

The theory that the disease is caused by feeding new corn has nothing to support it except that the disease is usually prevalent in early fall when new corn is being fed. There is no connection between the two. It happens to be the case that in the fall of the year the climatic conditions are favorable for the development of the hog cholera bacillus. At the same time in the year the corn crop is maturing and farmers begin to feed it. In the human family typhoid fever most often occurs in the fall of the year, but the physician does not attribute it to any particular diet people may eat at that time. The fact is that hog cholera and typhoid fever are very similar diseases and always rage most extensively in late summer and fall because conditions outside of the body are then most favorable for the development of the virus. New corn may produce indigestion (very seldom does however) but never cholera. We may leave this part of the subject by repeating that our swine epizootics are specific diseases caused by living germs, and that while there are secondary causes that may increase the susceptibility to disease and assist in spreading the contagion, none of them will cause an outbreak without the germ. On the other hand the virus may be sufficiently virulent to cause a fatal outbreak in the most vigorous well cared for herd. The last is also true of other animal diseases, and he who would protect live stock against infectious and contagious diseases by other means than by excluding the virus, makes a fatal error.

The most practical question of all is: What shall or can be done to prevent the great loss which occurs yearly. For twenty years the disease has been very prevalent and for more than ten years the cause has been known and sanitary measures recommended, calculated to arrest the spread of the trouble, and yet the disease is as prevalent as ever. Practically no progress has been made so far in dealing with it. Must the great loss continue, or will a cure or preventive be discovered? Can the plague be stamped out by the application of the vigorous measures recommended by some, or how can it best be dealt with? These are important questions and ones not easily answered. Much might be written regarding the use of drugs. For years we have frequently heard that this one and that one had a cure for the disease. The past season these "cures" have been more numerous than ever, and yet not one of these compounds has stood the test when applied to the treatment of different outbreaks of the disease. I have already explained that the disease may be mild or severe, and that in some herds a majority recover without treatment. This difference in virulency makes much difference in the apparent results of treatment, so that if a medicine be used in a mild outbreak, recovery may be the rule, while if used in a very virulent outbreak, all may die.

In view of these facts I unhesitatingly say that whatever reputation has been gained by any one of the cholera compounds, has been obtained by its being used when the disease was mild or when the animal would have recovered without any treatment. I have heard breeders state that after trying a preparation two years in succession with apparent good results, it utterly failed the third year.

The preparation tried and recommended by the Bureau of Animal Industry acts in a similar way to other cholera mixtures. It appears to do good in some herds; in others it is of no merit. When tried on the agricultural college herd it was of no apparent benefit, either as a preventive or curative agent. It is not reasonable to suppose, in my opinion, that any drug or combination of drugs will prove a specific for hog cholera. There is no specific for typhoid fever and cholera in man, nor other diseases of a like nature. While I have no faith whatever in the successful treatment of virulent hog

cholera or swine plague, I do not wish to be understood as discouraging the use of drugs altogether in the management of these affections, for no doubt recovery can be assisted in mild attacks by proper medication. The practicability of treatment even in these cases may be questioned, for the cost of medicine and time spent in administering is often in excess of the benefit derived, and unless the herd be so situated that medication can be carried out without great expense and bother, the administration of no drug whatever is advisable. A purgative at the outset of the disease, followed by some antiseptic like carbolic acid or hyposulphite of soda, will give as good results as anything.

Since it is becoming more generally understood that treatment is of little avail, more attention is being paid to preventive measures. A number of years ago Doctor Billings, then of the Nebraska Experiment station, announced with much positiveness that he could prevent the disease by inoculation. I deem it necessary to refer briefly to this subject, as Doctor Detmers and one or two others during the past season have quite extensively advertised for herds of inoculate, contending that their method was a success. Inoculation for the prevention of hog cholera, tried by the bureau of animal industry, at an early day, and practiced later by Billings, Detmers and others, consists of injecting beneath the skin of the animal to be protected a small amount of an artificial culture of hog cholera bacteria. The culture is obtained by inoculating beef broth with blood from a cholera hog. In other words, the hog is inoculated with a small amount of hog cholera virus—an amount supposed to be so small and attenuated in virulence that sufficient disturbance will be set up in the body to render the animal immune, but not to cause cholera.

A study of the work along this line shows that very different results follow the inoculation of different herds. A variable per cent of animals inoculated are protected against cholera. Some continue susceptible and contract the disease when exposed, and others contract cholera as the result of the inoculation. The results of inoculation made during the past season are far from satisfactory, and the fact that the disease may be started by this method of inoculation where it did not exist before, renders prevention by this means somewhat hazardous, to say the least. Even if this dangerous factor could be eliminated, I do not believe a large enough per cent are protected to render inoculation of much value.

A few years ago the chemist of the Bureau of Animal Industry announced that the blood serum of small animals which had been artificially rendered immune against cholera, could be used to render other animals immune. More recently, Dr. Peters, of the Nebraska Experiment station, who has recently begun work along this line, announces that by repeatedly inoculating the horse with a virulent hog cholera culture, it can be rendered so immune that its blood serum can be used to protect swine against cholera. This is another application of the serum therapy treatment of disease.

While it has shown that immunity can, in some cases, be produced in this way, a sufficient amount of work has not yet been done to determine the degree of success and practicability of the method. In the serum therapy treatment proper there is no danger of starting an outbreak of disease, as no hog cholera bacteria are injected, as is the case when inoculation, according to the method of Billings or Detmers is practiced, and if a sufficient degree of immunity can be produced to protect, the method will have much to recommend it. In a late paper, however, it is announced that this method is more successful when a small amount of cholera virus is used along with the serum, a combining of serum therapy with inoculation. It would seem to the writer that the use of a virulent virus along with the serum, complicates the treatment and renders it open to some of the objections brought against inoculation as practiced by Billings and others. It is also the opinion of the writer that if the loss is to be prevented by the use of a therapeutic serum that two serums will be necessary, one for hog cholera and one for swine plague. This also applies to inoculation.

Should the serum therapy treatment prove practicable, it will be of much service in preventing the ravages of swine diseases, but sanitary rules and regulations must continue to offer the best solution of the trouble. There can be no question but what if a well organized system of sanitary science and police could be put in force, our swine epizootics would soon cease to cause serious loss. While it may not be possible to completely stamp out these diseases on account of the great extent of territory involved, and the length of time that the virus lingers about the premises, the loss can be so much reduced as to be of little moment. Such efficient regulations cannot be put in

force by swine raisers, but must come from the general government or state, and in the main would consist of destroying some herds, quarantining others, and of a thorough supervision of all swine traffic.

The writer is firmly of the opinion that much more should be done by the swine owners themselves than is being done. One of the very essential things in resisting the ravages of the affections under discussion, is for the people to accept the findings of investigators and try to put into effect the advice given, instead of giving heed to the theories of those who have no knowledge of animal diseases, as many are inclined to do.

As already indicated, the most essential preventive measure is the excluding of all sources of contagion. To accomplish this result, it is very necessary that all swine bought for breeding or feeding purposes, should be quarantined for at least thirty days before being placed with the herd, and that the water supply be carefully looked after. Water from deep wells is always preferable; that from streams and surface wells may become polluted with cholera germs. The herd most completely shut off from the outside world during cholera times, is the one most liable to escape.

After the disease appears, something can be accomplished by separating the herd into small bunches kept some distance apart, by cremating the dead, and by disinfecting the yards and pens by the free use of lime or crude carbolic acid. If the farm is re-stocked with swine, new yards should be provided.

For ten years or more the true cause of cholera has been known and the proper rules and regulations for its suppression recommended; but instead of following the advice given, many have given prominence to such supposed causes as the feeding of new corn, breed of swine, worms, and others, which have been much discussed to the exclusion of the real issue. If every swine raiser would remember the main facts, viz: that the disease is communicable, occurring only as the result of the presence of the cholera or swine plague germ; that the sick or exposed hog is the usual carrier of the virus, that the disease is incurable, and would then do the best he can to exercise the necessary precautions to prevent disease reaching his premises, the great annual loss would be very greatly reduced. Such work on the part of swine owners in co-operation with sanitary police work on the part of the government, would soon place us in a position where the epizootic diseases of swine would give us little trouble.

REPORT OF CHEMICAL SECTION.

J. B. WEEMS IN CHARGE.

I have the honor of presenting the following report for the chemical section for the biennial period of 1895-1896, 1896 1897:

The work of the section has been largely of the nature of investigations upon various subjects, among which may be included the following: Analysis and examination of substances used for adulteration of butter and cheese; the native grasses of the state, in connection with the botanical section; soil moisture, in connection with the agricultural section, and the investigation on the chemical composition of sugar beets now in progress.

A large amount of analytical work has been carried on for the other sections of the station, and for others where the object was of such nature that it could be considered to be of public interest.

The equipment of the section has been increased as may be seen when comparison is made between the inventory of 1895 and 1897. These additions to the equipment of the section will enable to carry out most of its work without the hindrances due to lack of proper equipment.

	Nov. 1, 1895.	Nov. 1, 18 97
Value of chemicals	\$ 143 93	\$ 229.34
Value of apparatus	1,536.81	2,555 55
Value of office furniture.....	81.25	186.25
Total value.....	\$ 1,761 99	\$ 2,971.04

FINANCIAL STATEMENT IOWA AGRICULTURAL COLLEGE EXPERIMENT STATION IN ACCOUNT WITH THE UNITED STATES APPROPRIATION

DEBITS.	
To receipts from the treasurer of the United States as per appropriation for fiscal year ending June 30, 1896, as per act of congress approved March 2, 1887.....	\$ 15,000.00

CREDITS.	
Salaries.....	\$ 7,240.26
Labor	1,887.99
Publications	1,962 44
Postage and stationery.....	413 67
Freight and express	532 67
Heat, light and water.....	483 68
Chemical supplies.	506 48
Seeds, plants and sundry supplies.	1,134 43
Library	21 23
Tools, implements and machinery.....	227.40
Furniture and fixtures.....	305.20
Scientific apparatus	33.35
Traveling expenses.. ...	338.66
Contingent expenses.....	16 40
Building and repairs.....	396.14
Total	\$ 15,000.00

We, the undersigned duly appointed auditors of the corporation, do hereby certify that we have examined the books and accounts of the treasurer of the Iowa Agricultural College Experiment station for the fiscal year ending June 30, 1896; that we have found the same well kept and classified as above, and that the receipts for the year from the treasurer of the United States are shown to have been \$15,000, and the corresponding disbursements \$15,000, for all of which proper vouchers are on file and have been by us examined and found correct.

And we further certify, that the expenditures have been solely for the purposes set forth in the act of congress approved March 2, 1887.

(Signed)

[SEAL.]

W. M. BEARDSHEAR,
E. W. STANTON,
Auditors.

Attest:
W. M. BEARDSHEAR,
Custodian.

IOWA AGRICULTURAL COLLEGE EXPERIMENT STATION IN ACCOUNT WITH THE UNITED STATES APPROPRIATION,

DEBITS.	
To receipts from the treasurer of the United States as per appropriation for fiscal year ending June 30, 1897, as per act of congress approved March 2, 1887.....	\$ 15,000.00

CREDITS.	
Salaries.....	\$ 6,681.16
Labor	2,210.36
Publications.....	846.27
Postage and stationery.....	459.43

Freight and express	\$ 563.06
Heat, light and water.....	591.34
Chemical supplies.....	266.30
Seeds, plants and sundry supplies	1,000.18
Feeding stuffs.....	622.17
Library.....	11.99
Tools, implements and machinery.....	395.44
Furniture and fixtures	40.90
Scientific apparatus.....	109.94
Live stock.....	346.01
Traveling expenses.....	396.92
Contingent expenses.....	30.00
Building and repairs.....	427.59
Total.....	\$ 15,000.00

We, the undersigned duly appointed auditors of the corporation, do hereby certify that we have examined the books and accounts of the treasurer of the Iowa Agricultural College Experiment station for the fiscal year ending June 30, 1897; that we have found the same well kept and classified as above, and that the receipts for the year from the treasurer of the United States are shown to have been \$15,000, and the corresponding disbursements \$15,000; for all of which proper vouchers are on file and have been by us examined and found correct.

And we further certify that the expenditures have been solely for the purposes set forth in the act of congress approved March 2, 1887.

(Signed)

[SEAL.]

W. M. BEARDSHEAR,
E. W. STANTON,
Auditors.

Attest:
W. M. BEARDSHEAR,
Custodian.

It should be noted that the foregoing statement of the receipts and expenditures of the experiment station for the two years ending June 30, 1897, covers the fiscal years of the national government, and that these do not correspond with those of the college. This fact renders, of course, any comparison of the accounts in this statement with those in the reports of the treasurer and secretary impracticable.

HERMAN KNAPP,
Treasurer of Station.

HORTICULTURE AND FORESTRY.

J. L. BUDD, PROFESSOR.

CLASS ROOM WORK.

Instruction in horticulture and forestry is confined mainly to the students of the agricultural course. But at all times we have some special students and it is an optional study in the ladies' course. In 1896, the freshman class numbered thirteen, the sophomore class twenty-four, the junior class twenty, and the senior class ten. In 1897, the freshman class numbered eighteen, the sophomore class twenty, the junior class eleven and the senior class eleven.

As in recent years no text-books are used except in the way of reference to books in the library. The system of lectures and note taking with questions on the preceding lesson, discussions, and the use of class room and field illustrations, have given best results in fitting students for positions in agricultural colleges and experiment stations, for nursery and orchard managers, and for the right kind of home development.

INFLUENCE OF EXPERIMENTAL WORK.

In the report of the experiment station on a prior page some notes are given on the experiments in horticulture and forestry during the past twenty-one years. In this connection it is well to state that the extended work there outlined briefly has added materially in fitting students for their life work. Our young men who have gone out as leaders in horticulture, and professors in agricultural colleges, have been usually successful, growing largely out of their joining theory with practice. In other words the details of all work in garden, nursery and orchards are quite as important as the class room instruction.

While the present extended distribution of trees to trial stations will be discontinued after the spring of 1898, the work in all lines will be continued on a smaller scale quite as useful for student drill and development.

THE GREENHOUSE.

In the biennial report of 1895, the writer stated, "As yet our station has no facilities for certain lines of experimental work under glass." With the advances in other lines of work of the experiment station we need room in the new greenhouse for valuable work in horticulture and agriculture, botany and entomology, and agricultural chemistry. If durably constructed of iron, slate and glass, the erection and heating of the building will cost not less than \$12,000

The appropriation secured was only \$5,000. With this amount Professor Trelease, of Shaw's garden, of St. Louis, has said we have the best, most durable and neatest structure for the amount expended that he has inspected. The palm house and room for specimen plants will answer fairly well, but are too small. The serious shortage is in the way of low structures for propagation and the practical work of the different divisions of the station as outlined in the plan submitted two years ago.

With an additional appropriation of \$35,000 for rose house and three extensions fifty feet long for the practical uses named our facilities would compare favorably with those of other leading agricultural colleges.

VETERINARY SCIENCE.

M. STALKER, PROFESSOR.

When congress provided for the establishment of agricultural colleges in the several states, it evidently did so in view of the fact that certain lines of education were not maintained throughout the country with the degree of thoroughness that ought to exist. Up to the time of this provision, no branch of industrial education had suffered more from neglect, or was in a more hopeless state of empiricism than veterinary science. At the time of the passage of

this act there was not in the United States a single institution that was entitled to the claim of being a veterinary college, measured by the standard of judging such organizations at the present time. The Iowa Agricultural College was one of the first to take steps in this direction, and finally to adopt a course of study and invite students to its privileges. A faculty was organized, and a curriculum adopted. The management soon saw the necessity for a graded course of work, longer terms of study and more facilities than were contemplated in the first inception of the idea. A three years' course of study was adopted, models and general museum materials were collected for purposes of illustration, a commodious infirmary was erected, lecture rooms and laboratories were provided, and the whole equipment organized into a school of medicine of the veterinary specialty. The idea was new to young men looking for college advantages, and was regarded with some degree of suspicion, as savoring of the novel and unreliable.

Gradually a limited number of students became interested, completed the course and entered on professional careers. The results in a majority of cases were satisfactory, and gratifying numbers were enrolled for the course. The prosperous years of live stock husbandry were favorable opportunities, and the young graduate was in active demand. Everything went well until the almost unprecedented decline in horse values; and to some extent the same was true of other live stock property, when the services of the practicing veterinarian were less in demand. Such a state of affairs tended to discourage students from entering on a profession which was not so full of promise as formerly. The natural result was a decline in attendance. Meanwhile, the general government began to want specialists in this line for the prosecution of its work. Some years before it had provided means for education along industrial lines. Now this same government naturally looked for results, and for such specialists as its work demanded. The results were, that there proved to be an active demand for bright, well-trained young men to enter the bureau of animal industry to engage in its various lines of work. Colleges and experiment stations were looking for educated veterinarians to take charge of their departments, and it was soon found that there were places for all qualified men who cared to give up the regular practice of the profession for federal, state, and scientific situations. All this has brought about a reaction, and now young men with fair educational preparation are actively interesting themselves in veterinary studies.

The college is well provided with facilities for its work in most lines, but there are certain additions which should be made to its present equipment. An additional building should be erected to contain an operating room and dissecting room. This should be erected in close proximity to the hospital, where all cases would be taken for surgical operations, and a separate floor should be fitted with cold storage and other facilities for a dissecting room that could be made available at any time during the summer months. Such a building could be erected and the necessary changes made in the present hospital for an amount not to exceed \$6,000 or \$7,000. This would place the department in excellent condition for conducting all its lines of work in a satisfactory manner.

A scheme of the course of study is presented, which will give a general notion of the line of work engaged in.

COURSE OF INSTRUCTION.

FRESHMAN YEAR.

FIRST TERM.

Anatomy of Domestic Animals—5
 Dissection and Clinics—5
 English Language—5
 Histology—2
 Principles of Heredity—2
 Military Drill—2

SECOND TERM.

Anatomy of Domestic Animals—5
 Elementary Botany—2
 Dissection and Clinics—5
 Veterinary Medicine—5
 Physiology—4
 Zoology—2
 Military Drill—2
 Library Work—1

JUNIOR YEAR.

FIRST TERM.

Botany, Pharmaceutical—1
 Chemistry, General—3
 Dissection and Clinics—5
 Materia Medica—5
 Physiology—3
 Zoology—2
 Military Drill—2

SECOND TERM.

Anatomy of Domestic Animals—3
 Chemistry—3
 Clinics—5
 Veterinary Medicine—5
 Ophthalmology—1
 Pathology, General—3
 Animal Parasites—2
 Military Drill—2

SENIOR YEAR.

FIRST TERM.

Botany, Bacteriology—1
 Chemistry—3
 Pathology, Comparative—3
 Therapeutics—2
 Veterinary Medicine, Principles and
 Practice of—5
 Operative Surgery, Principles of—3
 Milk and Meat Inspection—2
 Clinics—5
 Thesis begun.

SECOND TERM.

Anatomy of Domestic Animals—3
 Veterinary Surgery, Principles and
 Practice of—3
 Obstetrics—3
 Ophthalmology—1
 Clinics—5
 Therapeutics, Surgical—2
 Examination for Soundness—2
 Shoeing, Principles of—1
 Animal Nutrition—5
 Thesis, finished four weeks before close
 of term.

BIENNIAL REPORT OF THE DEPARTMENT OF MECHANICAL ENGINEERING.

G. W. BISSELL, PROFESSOR.

At the beginning of the biennial period there was appropriated to the college, for the purpose of shops, the sum of \$5,000. Said amount has been expended in the building and permanent fixtures of a combined forge shop and foundry. The building is 77 feet long by 33 feet wide, the walls being 16 feet high from the floor to the eaves. Seventeen large windows and doors, together with a skylight, give abundance of light and ready access to the interior of the building. A chimney 32 feet high, of brick, was built for the brass furnace and core oven. The roof is of slate, on sheathing, and is supported by a substantial steel truss construction designed with special reference to the needs of such a building. Steam heating is provided, the supply being taken from the adjoining power house of the college. The stationary equipment provided from this appropriation consists of an improved cupola and accessories for the melting of iron; a brass furnace and core oven of brick, with iron trimmings; a system of line shafting, from which are driven the various tools for the operation of the shop; a complete system of blast pipes for the forges, and an exhaust fan for the carrying off of the smoke and dust from the forges and the foundry work. A traveling crane, the ways for which are supported by the roof, constitutes also a portion of the equipment. The other items of equipment necessary for the work are supplied from other funds. The building is very complete and well adapted to the work, and meets very satisfactorily the demands which we have had for a long time for suitable facilities for this work. I would respectfully urge the attention of the general assembly to the needs of the department in the direction of a carpenter shop for that department of our manual training. This department is now housed in a dilapidated building heated by stoves, which, besides being entirely unsuited to our work, is in addition a serious menace to the safety of the other buildings, by which it is closely surrounded, on account of the immense fire risk involved by the presence of such an inflammable structure. The sum of \$10,000 is none too much to be expended in the construction of a new building for this work, and it is hoped this matter may receive serious consideration by those who are interested in industrial and technical education in Iowa.

CIVIL ENGINEERING.

A. MARSTON, PROFESSOR.

During the past biennial period considerable repair work has been done to the rooms occupied by this department. The laboratory equipment has been increased by the purchase of apparatus for conducting all the standard tests of building stones and paving brick, and, in conjunction with the mechanical engineering department, of a 100,000 pounds automatic and autographic Riehle's

testing machine. It is believed that some progress also, has been made in the work of the department, which it is intended continually to improve, and keep abreast of the times. For example, the increased laboratory equipment affords better facilities for laboratory and experimental work, the results of which can be noticed especially in the quality of the thesis work.

During the biennial period interesting tests of Iowa building stones and paving bricks have been made, which it is hoped to extend in the future, and a thesis on another subject won the Engineering News thesis prize for 1895 in a competition open to all the engineering schools of the country.

The department at present occupies the third story of Engineering hall. Its rooms include a large class room, large drafting room, the office, and the instrument room. The department is well supplied with instruments for ordinary field work, including six transits, four levels, two compasses, a plane table, etc. Its laboratory equipment, in addition to what has already been mentioned, includes a complete cement testing outfit.

The most pressing needs of the department at present are for more space and greater laboratory equipment. We are now wholly dependent upon the courtesy of the overcrowded mechanical engineering department for space to place our present laboratory equipment, and this equipment should be at once increased by fitting up an hydraulic laboratory, and by adding much additional testing apparatus. The only adequate solution of the matter will be to erect a large, well-built and handsome engineering hall, to cost say \$75,000 to \$100,000, to serve as headquarters for all the engineering departments. The present building could then be devoted to laboratories and shops, filling a pressing want. It is earnestly to be hoped that the time may soon come when this can be done, and when the work of the department can be extended and improved in various lines along which we can at present only slowly progress.

During the biennial period now closing the department has prepared the detailed plans for the college waterworks, including those of the elevated steel tank, the largest in the west. It is a source of pride that these plans, both originated and fully worked out by the department, were completely approved by the competent consulting engineers to whom, by request of the department, they were submitted before construction. The construction of the system was carefully supervised by the department, the supervision being probably more minute and rigid than any other system ever constructed in this state has received.

Much other work has also been supervised for the college by the department, and in all such work student assistance has been used whenever needed and suitable. Such work constitutes a valuable drill for the students who do it.

DEPARTMENT OF PHYSICS AND ELECTRICAL ENGINEERING.

L. B. SPINNEY, PROFESSOR.

This period has been for the department a prosperous one. The facilities for carrying on the work have been materially increased by the completion of the system of switch-boards and electric connections which extend to all laboratory rooms, the assembling of dynamos and motors in the dynamo room, and the equipment of the cottage basement rooms for special work. The class work has shown a growth corresponding.

The department offers the following courses:

1. Mechanics and heat, five hours per week. Spring term.
2. Light and sound, three hours per week. Spring term.
3. General astronomy, five hours per week. Fall term.
4. Spherical and practical astronomy, three hours per week. Fall term.
5. Theory and practice of photography, one lecture and one afternoon per week. Fall term.
6. Elementary mechanics and heat, five hours spring term and three hours fall term. (For engineers.)
7. Electricity and magnetism, five hours per week. Fall term.
8. Dynamo electric machinery, four hours per week. Spring term.
9. Applied electricity, four hours per week. Fall term.
10. General physical laboratory, two afternoons per week. Spring or fall term.
11. Physical laboratory, elementary electrical measurements, two afternoons per week. Spring or fall term.
12. Physical laboratory, electrical testing, two afternoons per week. Spring or fall term.
13. Physical laboratory, dynamo and motor and commercial plant testing, two afternoons per week. Fall term.
14. Electric light wiring, one lecture per week. Fall term.
15. Electrical designing, batteries, ammeters, voltmeters, etc., one afternoon per week. Spring term.
16. Electrical designing, dynamos, motors, etc., two afternoons per week. Fall term.
17. Theses in physics and electrical engineering.

Of the above courses, 1 to 9 inclusive are in lecture and recitation work, and 10 to 17, excepting 14, are laboratory courses.

The department is in need of better lecture room and laboratory facilities. Improvements in the present lecture room are now under consideration which will help in this direction, but a well appointed physical lecture room, such as can only be provided for in the original plans of a building, is very much needed.

Nearly all of the senior work in the physical laboratory and a very large part of the junior work requires basement rooms or first-floor rooms provided with heavy stone piers for supporting instruments. A great deal of physical laboratory work is impossible in second story rooms.

The apparatus of the department is necessarily more or less exposed to the fumes from the chemical laboratory below, thereby suffering deterioration.

The department should have new quarters in the basement and on the first floor of a building separate from the chemical laboratory. A further urgent need of the department is an astronomical observatory. Course four would be far more helpful to the student and much more "practical" if astronomical instruments were at hand for demonstration purposes. Course three could also be made more instructive if the student had access to some of the more simple instruments.

MINING ENGINEERING.

JAMES RUSH LINCOLN, PROFESSOR.

I have the honor to report as follows for the various classes I instruct:

The mining engineering class of next year will require quarters for class and laboratory work, or it will be impossible to accomplish satisfactory results. Good work cannot be done without proper equipment, and proper rooms in which the work can be done, without the interference resulting from the use of the same quarters by classes in various courses of study.

If an armory is erected the mining engineering department can be associated with the department of military science and tactics to the advantage of each, and this will also vacate rooms for the use of other departments.

A generous appropriation can be used to the great advantage of this course which is now in its infancy and with a small equipment.

The class in commercial law accomplished good work and with the usual interest in this study. The classes in book-keeping were enabled with their new tables to work with increased interest and accomplished good results.

DEPARTMENT OF BOTANY.

L. H. PAMMEL, PROFESSOR.

In making my biennial report for the years 1896 and 1897 I desire to give a brief history of the department since its inception. In this way we get a better idea of what has been accomplished and whether the funds committed to its charge have been wisely used.

Dr. A. S. Welch in his first report, made on the 10th of January, 1870, recommended among other things that a chair of botany and horticulture be filled. During the first college year botany was taught by the lamented Dr. Townsend. In 1871 provision was made for the instruction of botany by the election of Prof. Charles E. Bessey, a graduate of the Michigan Agricultural college, as an instructor at a salary of \$1,250 a year. In addition to his work in botany, zoology, entomology, and physiology were taught, besides having charge of the vegetable garden. Considerable activity was shown; the herbarium was increased to 2,500 species of plants. He also published a paper: "Contributions to the Flora of Iowa"; in this work he was assisted by Prof. J. C. Arthur, then a member of the junior class.

In 1873 Professor Bessey still covered the entire field of natural history. The herbarium increased to 3,600 species. In 1877 Dr. J. C. Arthur was added to the list of instructors and Professor Bessey had charge of the department of biology. The herbarium was increased to 5,000 species. A botanical laboratory was fitted up on the second floor of the main building to accommodate ten students. Each table was provided with one compound microscope. It will be seen from this that laboratory instruction was deemed of great importance. Research work, so essential to keep in touch with the spirit of progress, was early appreciated. A paper on blights (*Erysipheæ*) was published.

In 1879 the scope of botanical work was extended so that vegetable physiology, anatomy, and cryptogamic botany found a more prominent place in the curriculum. The facilities for instruction also increased; the department owned eleven microscopes. In 1880-1881 the department was moved from its cramped quarters in the main building to what was known as North hall. Here the botanical department was domiciled till 1894. The building was not desirable for the purpose, but it was better than that to which the department had been accustomed. The building was provided with a large lecture room, a laboratory, a herbarium room, and an office. In 1882 it passed through a cyclone which destroyed the southeast wing containing the herbarium.

In 1894 the department occupied temporary quarters in the new Agricultural building. In 1896 it moved to the main building, where excellent light for laboratories, a lecture room and offices, besides plenty of store room were provided.

Much time was spent by Professor Bessey in the lecture room and laboratory, requiring on an average three hours a day. The collection had increased to 7,000 species of plants, and with the apparatus was valued at \$2,562.75. In 1882 the annual increase of 3,500 specimens was noted. The collection was arranged by Dr. J. C. Arthur. In 1883 the herbarium was increased by 1,620 species. In addition to teaching, much time was spent by Dr. Bessey in labeling and mounting specimens.

In the spring of 1885 Dr. Bessey was called to the chair of botany in the University of Nebraska at a much increased salary. All of the earlier students of the college appreciated his untiring efforts to build up the department. His enthusiasm kindled in his students a desire to work along the lines suggested by him. Of the students who owe their early zeal in natural history work to him mention can be made of Dr. J. C. Arthur, Purdue University, Lafayette, Ind.; Prof. Herbert Osborn, Iowa Agricultural College; Prof. F. L. Harvey, Orono, Me.; Prof. E. S. Richman, California; C. L. Suksdorf, Buffalo, N. Y., Prof. A. S. Hitchcock, Manhattan, Kan.; besides a score of others who have entered the allied sciences of agriculture and horticulture.

Dr. Bessey made for the college a reputation as a recognized authority along certain lines. His text-book on botany was widely used, and besides his editorial connection with the American Naturalist he was the author of numerous papers. His work has been of inestimable value to the college and state.

In 1885, Dr. Byron D. Halsted, a graduate of the Michigan Agricultural College and Howard University, and editor of the American Agriculturist, was called to the chair of botany. During the year 4,000 specimens were added to the herbarium. Dr. Halsted resigned to accept a better position in Rutgers college, New Brunswick, N. J., in January, 1889. During his connection with the College two scientific bulletins were published, one in 1886 and one in 1888.

In addition to these papers, much other matter appeared from his pen in scientific and agricultural papers. Several of Dr. Halsted's students have since done excellent work; Prof. S. A. Beach, Geneva, N. Y.; Prof. P. H. Rolfs, Lake City, Fla.; Prof. J. A. Kelsey, Rutgers college, New Brunswick, N. J.

In 1889 the present writer was called to the chair. Few changes were made in the curriculum; bacteriology was added to the course, at first for veterinary students, and in 1890 for students in the course for ladies and the sciences. The courses in vegetable physiology and cryptogamic botany were rearranged by placing them earlier in the course. In 1891, owing to the Morrill support fund, it was possible to extend the work of the department, and Prof. P. H. Rolfs was made an assistant. He served in this capacity until called to the chair of biology in the Florida Agricultural College. The herbarium was increased by donations from Professor Rolfs and Mr. Ferd. Reppert, and the private collection of the writer, amounting to 7,000 specimens, was donated to the college. There were also donations from the United States department of agriculture, and a valuable collection of Iowa plants from A. S. Hitchcock.

During this biennial period, Dr. Mary A. Nichols, a graduate student, and Mr. F. C. Stewart acted as assistants. Mr. Stewart, who served as assistant for three years, received an appointment as mycologist to the New York Agricultural Experiment Station at Jamaica. In 1895, Mr. C. B. Weaver and Miss Emma Sirrine and Prof. G. W. Carver acted as assistants. Professor Carver was called to an important position in the well known colored institute at Tuskegee, Ala.

In 1895 the college purchased the Parry herbarium, a valuable acquisition. It contains hundreds of types from the West and Southwest. Dr. Parry was connected with many of the government surveys. The herbarium has been largely increased by donation, some 5,000 specimens having been added in 1897. The gifts came from R. I. Cratty, Armstrong, Iowa; Iowa State University; Henry Eggert, East St. Louis, Mo.; Prof. C. S. Crandall, Fort Collins, Col.; Prof. Aven Nelson, Laramie, Wyo.; United States Department of Agriculture; Barnes and Miller, Blue Grass, Iowa; F. Lamson-Scribner, Washington, D.C.; Columbia College, New York; Field Columbian Museum, Chicago; and Prof. P. H. Rolfs, Lake City, Fla. Some minor purchases have also been made; these were mostly fungi.

During the past year two graduate students, Mr. C. R. Ball and Mr. Robert Combs, have assisted the department in instruction and in working up the state flora.

At the end of twenty-seven years, the college collection contains 70,000 specimens, valued at \$10,000. The total amount expended for this collection did not exceed \$7,500. Apparatus and material used for college work has only a transient value, but the collection can never lose. With the increase of students and the care of material in hand, a larger appropriation is required.

ALFALFA LEAF SPOT DISEASE.—[*Pseudopeziza Medicaginis* (Lib. Sacc.)

BY ROBERT COMBS.

Synon: *Phacidium Medicaginis* Lib. (Plant. Ard. exs. 176).

Pseudopeziza Medicaginis Sacc. (Fungi Ard. No. 90).

Phyllachora Medicaginis Sacc. (Myc. Ven. pag. 145, tab. XVI, fig. 58-60).

Rehm gives it as *P. Trifolii* (Bernh.) Forma *Medicaginis* (Lib.)*

Lindau, (Engler & Prantl, Pflanzenfamilien, 130, Lieferung (1896) p. 215). after a short discussion of *P. Trifolii* (Bernh.) Fuck., says; "Eine als besondere Art unterschiedene Form kommt auf Medicagoarten vor."

This disease was first described by Libert in 1832. (Plant. Ard. exs. 176).

In 1840, Mazerius treats it more fully (Trans. Insular Soc. of Ag. Sci. and Arts p. 579), and again in 1843 (Crypt. Pl. France, Pt. XV).

In 1869 Fuckel mentions it as common throughout Germany. (Rheinischen Pilze, Wiesbaden, p. 263.) Frank briefly describes it in 1880 (Krankheiten der Pflanzen, Breslau (1889) II p. 548), and in 1896 (Pilzparasitaren Krankheiten der Pflanzen, p. 484), he treats it as a form of *P. Trifolii* (Bernh.) Fuck. Notwithstanding the treatments of Frank, Rehm, and Lindau to the contrary, I have taken the nomenclature of Saccardo (Sylloge Fungorum Vol. VIII (1889), p. 724), which seems to be more in accordance with the nature of the disease, as well as the laws of nomenclature. The disease in Iowa only occurs on the species of medicago (alfalfa etc.), and on clovers; the *complete* form of this *Pseudopeziza* is not common here. This fact, together with the morphological differences of the two diseases, seems sufficient to regard it as a distinct species.

The disease is most common on *Medicago sativa* L. (common alfalfa, or lucerne) but is reported as occurring on other species of *Medicago*, as *M. lupulina*, *M. minima*, *M. Willdenovii*, *M. corstenensis*, and rarely on *Trigonella*. I observed it this year (1897) on a plat of *M. media*. It has been recorded for Belgium, France, Germany, Italy, Spain, Siberia, countries of South America, and throughout the United States. In fact, it is found wherever alfalfa is grown.

In the United States, its first mention is probably when Sprague found it in New England and Pennsylvania in 1856 on *Medicago sativa* L., although it was not registered until 1875, by Berkley (Grevillia, Vol. IV, Sept., 1875, p. 6) and then under the old name of *Ascobolus Trifolii* Bernh., an old name for *Pseudopeziza Trifolii* (Bernh.) Fuck. It has no mention then until 1889, when Chester (Del. Agr. Exp. Sta. 2d Ann. Rept., pp. 94-95) records its presence in twenty experimental plats of alfalfa in different parts of Delaware, and in some cases came near destroying the crop. He treats the subject much more fully the following year (Del. Agr. Exp. Sta., 3rd Ann Rept., pp. 79-84). In this article a review of the whole subject is given, with cuts and descriptions of the external and microscopic characters. A few remarks as to treatment and the results of some experiments are also given. He sterilized the soil with heat and the seed with copper sulphate (10 per cent sol.), and found that the plants resulting from seed and soil thus treated became as badly diseased as those not treated. Since this time nothing has been done toward the further investigation of this most destructive of alfalfa diseases.

There is no doubt that this disease, which attacks the plant at any time after it has made a growth of four to six inches from the seed, is the principal cause of the non-success, or partial success, of this most excellent forage plant in this part of the country. When it attacks the plant early it prevents a good stand, and later it greatly retards the growth and vigor, because of the diseased condition of the leaves.

Professor Pammel, in 1891 (Fungus Diseases of Forage Plants of Iowa, p. 25) estimated the loss to the crop of alfalfa due to this disease at 50 per

*Rabenhorst's Kryptogamen Flora, Vol. I, Abt. III, 37 Lief, p. 598.

cent. These facts, together with the fact of its almost universal distribution wherever alfalfa is cultivated, seem to justify a further mycological and experimental study, and accordingly I have conducted some experiments, which, however, are but little more than preliminary.

Before discussing this and other experiments it will be necessary to give a description of the fungus which causes the disease.



Fig. 1.

Fig. 1. *a*, Leaf enlarged, showing diseased spots; *b*, a spot enlarged, showing black apothecium in the center; *c*, paraphyses and an ascus containing ascospores. (Highly magnified.)

Small blackish brown specks appear usually upon the upper side of the leaves (Fig. 1*a*) which in a few days enlarge to about one-sixteenth of an inch in diameter, and extend through the leaf to the lower side, which becomes of a like color (perhaps a little lighter). The intervening leaf parenchyma also becomes brownish.

In the center of each well developed spot a small blackish pustule appears (Fig. 1*b*) upon the upper side and sometimes upon the lower side also. These pustules, called apothecia (sing. apothecium), soon rupture the epidermis or skin of the leaf, which rolls back or falls off, exposing an area which when viewed in cross-section and highly magnified, presents a cup-shaped mass of colorless, long club-shaped, sac-like bodies, standing upright (Fig. 2). These bodies called asci (sing. ascus), each contain eight egg-shaped hyaline or colorless, one-celled bodies, called ascospores (Fig. 1*c* and Fig. 3), each of which has a nucleus and two oil globules.

Fig. 2.

Fig. 2. Paraphyses and asci; one ascus showing the opening from which part of the spores have escaped.

Fig. 2

Fig. 2. Cross section of leaf through apothecium, showing reflexed epidermis and the protruding mass of intermingled paraphyses and asci containing ascospores (highly magnified).

They answer the same purpose as the seeds of higher plants. In culture solutions and rain water the ascospores germinate, producing a short tube or promycelium. The asci, along with certain thread-like sterile bodies called paraphyses, comprise the contents of the apothecia and arise from the vegetative thread-like mycelium of the fungus, which ramifies among the cells of the interior of the leaf (Fig. 4), obtaining nutrition from the cell contents mainly from the palisade parenchyma just beneath the upper epidermis or skin.

When the fungus is ripe the ascospores make their way out of the ascus through an opening at the apex or outer end, are carried by the wind or other means to the same leaf or another leaf of the same or another plant, where, under the proper conditions of warmth and moisture, they germinate, producing a small tube which, although I have been unable to observe, most probably enters the leaf through the small openings called the breathing pores or stomata, upon the upper side, ramifies among the cells of the leaf, and after its vegetative period produces the fruiting pustules or apothecia above described.

This completes the life cycle as far as known. A pycnidial stage is often associated with the allies of this species, and in fact Tulasne (Sel. Fung. Carp., III, p. 141,) has called attention to the association with this species, of *Sporonema phacidioides* Desm., but this has not been generally accepted, as the relation seems not to have been clearly established.

Fig. 4.

Fig. 4. Cross section of leaf through apothecium, showing the mycelium ramifying among the cells of the leaf (Highly magnified.)

Professor Chester's experiments pointed to atmospheric inoculation, *i. e.*, there was but little danger of infection from impure seed or infected soil. To prove this, however, I took growing plants in the field that were generally affected, cleaned away the debris and loose dirt, cut the plants off level with the ground, and then sunk bell jars into the ground around them, placing loose

cotton stoppers into the top to facilitate communication with the outside air and still keep out all spores. When the plants came up again they were closely watched for about six weeks, but no signs of the disease appeared within the bell jars, while all the surrounding plants were seriously diseased. (Exp. No. 1.)

(Exp. No. 2.) August 1st, fresh untreated alfalfa seeds were planted in the greenhouse, some under three separate bell jars with loose cotton stoppers in the top, and some unprotected. Inoculations were made about August 20th, on the plants under jar No. 1 with spores germinating in water from hanging drop preparations, and on plants in No. 3 with dry, powdered, diseased leaves of alfalfa. August 30th a number of clearly defined spots had appeared in No. 3, but No. 1 remained clean, as did No. 2 (which had been left as a check) and the plants unprotected by bell jars.

(Exp. No. 3.) August 30th, a large lantern globe was carefully placed over some of the unprotected plants, and dry, powdered, diseased leaves were sprinkled over the confined plants and a sheet of cotton batting tied over the top. September 8th, clearly defined spots had appeared upon a great many leaves of the plants thus treated, while all of those not treated were perfectly healthy.

At different times between September 1st and 8th, microscopic examinations were made of the treated leaves, but no germinating ascospores could be found with their tubes entering the leaves as I had hoped, but as the disease appeared on the upper side, it is reasonable to suppose that the mycelium of germinating spores entered the leaf through the stomata on the upper surface where they had fallen.

(Exp. No. 4.) On September 6th one of the jars was taken from the perfectly healthy plants in the field (which had been used in Exp. No. 1) after having been there since July, and on September 30, numerous spots had appeared.

These experiments seem to clearly establish two facts,—1st, the plants become affected by the spores carried by the air; and 2d, the disease is strictly local, *i. e.* its mycelium does not affect the stem nor the root, but is confined to the limited brown spot on the leaf. This last is clearly verified by microscopic examination of cross sections of diseased leaves, for no abnormalities nor foreign structures can be detected in the leaf parenchyma outside of the brown area.

TREATMENT.

Since the disease readily survives the winter, and is carried by the wind as dust, it is advisable to burn the field in late fall or early spring. If there be not sufficient dry material on the field, straw or other combustible refuse of the farm may be spread over the field and burned.

The selection of seeds from unaffected plots, or the treatment of seeds of unknown purity with 10 per cent CuSO_4 before sowing, would be advisable. If seeds are drilled instead of sown, the danger from impure seed is much lessened, because of the fact that the spore must be in contact with the leaf to produce the disease, and when drilled they are buried beneath the soil.

In sown fields the spores would principally remain upon the surface of the soil and therefore be very liable to infect the leaves.

Frequent cutting in the crop is very effective in holding the disease in check.

SEED TESTING: ITS IMPORTANCE, HISTORY, AND SOME RESULTS, WITH A PARTIAL BIBLIOGRAPHY.

CARLETON R. BALL.

Importance.—The importance of seed-testing cannot be overestimated. Only in comparatively recent years have farmers and gardeners begun to appreciate the complex physiological and meteorological conditions which influence the production and germination of seed. In no line of agricultural industry has the farmer been more inclined to trust to chance, luck, good fortune, or some other patron saint of the art, than in the selection or purchase and planting of the seed from which he expected to raise a crop. It is true that the majority exercise considerable care in the selection of seed of the common cereal crops, but even here the pressure of false economy prompts some, when seeding their own fields, to use grain which is more or less damaged, and hence not readably salable.

It was to educate the ignorant or negligent consumer, and to discover the dishonest or careless dealer, that so many experiment stations have undertaken the expensive and arduous labor of testing commercial seeds. It must not be thought that all seedsmen are guilty of mixing old seeds with their fresh stock, or of selling seeds which contain large amounts of weed seeds or other foreign material. On the contrary, we are sure that the great majority of them are honest and upright in their dealings. There are a few, however, as there are some in every line of commercial pursuit, who do not hesitate to employ fraudulent methods in the sale of seeds.

There is at present a certain demand for cheap seeds, and to this cause must be ascribed a part of the poorer seed found on the market. But the fact that the greater part of our commercial seeds are pure and vital does not make good the financial loss or heal the wounded feelings of the man who happens to purchase some of the lesser part which is neither pure nor vital. There is no doubt that all the honest seedsmen would welcome any system of seed control which would increase the demand for a better grade of seeds, and remove the injurious competition of the unscrupulous dealer. It is obvious that there are so many outside conditions of soil and weather which influence the resulting crop that the seedsman cannot and ought not to be held responsible for anything further than the quality of the seed he sells.

Some of the facts which a systematic and scientific testing of seeds by the experiment stations has shown, and will show with greater accuracy as this method obtains more extensively, are as follows:

(1) The reasonable standard of vitality or germinative energy which different seeds should possess, the actual vitality of the seeds tested, and the gradual decrease in vitality, and hence in real value, due to increasing age.

(2) The amount and nature of the impurities or adulterations, whether consisting of good but cheaper seed; of harmless but worthless material, as dirt, chaff, etc., or of seeds of noxious and troublesome weeds.

(3) The relative value of mature and immature seed; of large, heavy seed as compared with small, light seed, and similar physiological questions looking toward the improvement of plants.

(4) The action of different chemical substances used for treating seeds against insect and fungus enemies.

If the farmer or gardener buys seed which by reason of age or improper handling has lost its vitality, he suffers direct loss. This loss is not only the original cost of the seed but what is of greater consequence, the immediate use of his land and the labor, fertilizer, etc., required in preparing and planting it.

Again, he may buy seeds which contain a considerable amount of impurities. These are either dirt, sticks, chaff, broken seeds, and weed seeds, resulting from careless growing and ineffective cleaning, or else they consist of similar but much cheaper seeds or, in some cases, of skillfully polished and colored grains of quartz sand, purposely mixed with a varying quantity of the true seed which is offered for sale. The purchaser of such seed also suffers a money loss in proportion to the amount of the adulteration. He also runs a great risk of introducing into his fields many noxious weeds which cost him much time and labor to eradicate and which sometimes spread so rapidly as to seriously threaten the agricultural interests of large areas.

A more accurate and widely diffused knowledge of the principles of seed selection would save many farmers from planting seed grain which was either immature or had been so injured by climatic conditions as to be incapable of germinating and producing healthy, vigorous plants. It would also aid the gardener in selecting his seed in order to obtain an earlier maturing fruit and so secure better markets and avoid the danger of early autumn frosts. So, too, he might, without any additional cost, select seed that by its greater supply of food for the young plant, would give him more vigorous growth and more abundant production, thus increasing his profit.

There are many chemical substances which may be effectually used to destroy weevils and other insects which injure seeds. Some compounds are used to destroy the spores of smuts and other fungus diseases which gain an entrance to the plant through the germinating seed. Some of these substances materially hasten the germination of seeds treated with them. Some are beneficial when used in solutions of moderate strength and for short periods of time but are very injurious to the delicate germ in the seed when the solution becomes stronger or the treatment is prolonged.

SEED CONTROL IN EUROPE.

Organized seed control was first heard of in Germany. A station for testing commercial seeds was organized in 1869, in connection with the forestry academy already located at Tharandt. Its inception was due to the investigations of Dr. Nobbe, who became its director.

The disclosures made by him in regard to the poor quality and serious adulteration of commercial seeds, especially the grasses and clovers, awakened a general popular interest in the subject. The seedsmen and farmers recognized at once the mutual benefits to be derived from the scientific and impartial seed control. The former were better enabled to satisfy their customers by guaranteeing the quality of their wares, and were themselves protected from the injurious competition of unscrupulous and dishonest dealers. The latter were enabled to purchase reliable seeds at no additional cost. These methods

grew in favor very rapidly and several stations were soon organized in different parts of Germany. Other countries soon followed her example. In 1895 there were about one hundred and twenty of these stations in Europe and similar organizations in Brazil, Japan and Java. The progress of this work in America is treated of in another part of this paper.

These numerous stations, although varying somewhat in accordance with the peculiar needs of their patrons in the different countries, are pursuing essentially the same general method in their work. Nearly all have been established by the governments and are supported partly by appropriations and partly by the fees received for their services.

Seeds are tested for purity and vitality. For the smaller and lighter seeds a sample of 100 grams weight (about $3\frac{1}{2}$ oz. avoirdupois) is required, but for the larger, heavier seed it must be 250 grams. The fees vary according to the completeness of the test. For testing vitality the fees vary from 75 cents to \$2.50 according to the size and character of the seed. For specifying the impurities the fees run from \$1.25 to \$6.25, with additional charges for determining dodder in clover seed. When the test is completed a report is sent to the customer stating the percentages and nature of the impurities and the percentage of vital seed.

The seed control station at Zurich, Switzerland, may be taken as a type of the higher grade of efficiency reached by these stations. It has an international reputation and is largely patronized by seedsmen in the other countries of Europe, as they prefer it to those of their own countries. All persons offering seeds for sale in Switzerland are required by the federal law to have them tested at the Zurich station, and to place upon each package the percentage of purity and vitality as determined by the station test.

For their foreign patrons, they have two different kinds of contract. Under the first, which is known as the "private contract," the dealer, by the payment of a certain annual sum, is privileged to send a specified number of samples to the Zurich station each year for complete analysis. He has these tests made largely for his own satisfaction as to the quality of the seed he sells, and they do not give his customer any guarantee from the Zurich station.

The second is what is called the "control contract" system. The seed merchant under this system is permitted to have a specified number of seed samples tested during the year in return for the payment of an annual fee. He is also allowed to announce himself to his customers as "under control of the Swiss Seed Control Station." Each of his customers receives with his seeds a duplicate report of the test made at the Swiss station. If the purchaser suspects that the seed is inferior to the guaranteed quality, he may send it to the control station for analysis free of charge. The sample so sent must be taken in the presence of two reputable witnesses from an unopened package of seed received from the dealer. This sample is then placed in a sack, sealed, and mailed to the Zurich station in the presence of these witnesses, who must then certify to the fact.

This thoroughly organized public control of commercial seeds has been very favorably received by all concerned. Seedsmen in general were only too glad to respond to the demand for pure, viable seeds. They were now enabled to do this with confidence in the good quality of their seeds and free from the corrupt competition of dishonest dealers, who were forced either to quit the business or better the quality of their goods. The control system in Europe

has thus resulted in a very marked improvement in the quality of the seed offered for sale. This has been accomplished not only without additional expense to the consumer, but on the contrary, oftentimes an actual saving to him because a smaller quantity of the good seed was required than of the poorer seed formerly sold.

SEED TESTING IN AMERICA.

The necessity for improvement in the quality of commercial seed was not felt in America until a later period than in Europe. This does not necessarily indicate that the American agriculturist is less progressive than his European brother, but is rather to be attributed to the different conditions which prevailed here in this country. In the first place, it is doubtful whether there was as much fraud and adulteration of seed practiced in America as there was at that time in Europe, where Nobbe found firms whose sole business was the manufacture of imitation clover seed from polished and colored grains of quartz sand. We must admit, however, that some of the bogus clover seed found its way across the ocean.

Again, in this country, during the first years succeeding the settlement of the great agricultural areas of the west, extensive farming was the rule. With soil of seemingly inexhaustible fertility, prevailing high prices for produce and comparatively little competition, the most indifferent methods of farming gave immediate and profitable returns. Gradually, however, these conditions became reversed. The soil became depleted of the chemical elements necessary for plant nourishment. Competition at home and abroad became stronger, and for several reasons the price of farm products fell. The civil war and the financial panic of twenty-five years ago added to the increasing burden of the farmer, and he felt the need of improved and economic methods.

To discover and promote these methods was one of the functions for which the agricultural experiment stations were called into existence. It was necessary to return to the soil those elements of which it had been robbed through ignorance of the laws of plant growth. The manufacture and use of commercial fertilizers increased rapidly, but their complex composition made frauds comparatively easy, and this soon caused a universal demand for a reliable public control of these substances. This work of analyzing and reporting was delegated to the various experiment stations, and has since been carried on with great benefit and satisfaction to all parties. Having thus provided the growing plants with the elements necessary for their nourishment, attention was called more plainly to the quality of the seed from which the crop was to be raised.

The pioneers of America in this line of investigation were Prof. E. H. Jenkins of the Connecticut Experiment station, in 1877; Prof. W. J. Beal of the Michigan Experiment station, in 1877; and Dr. Albert R. Ledoux of the North Carolina Experiment station, in 1879. The work of the latter station has been continued without interruption up to the present time, having been under the able management of Prof. Gerald McCarthy since 1888. For complete equipment and long continued careful investigation it probably stands at the head of this work in America to-day.

Valuable experiments have also been carried on at the experiment stations in Arkansas, Delaware, Illinois, Indiana, Iowa, Maine, Massachusetts, Minnesota, North Dakota, New Mexico, New York (State), New York (Cornell), Pennsylvania, Rhode Island, South Carolina, South Dakota, Vermont, Wisconsin, the Dominion station at Ottawa, and the Ontario station at Guelph,

Ontario, Canada. The United States department of agriculture has encouraged the work in many ways and has published several papers on the subject in recent years. Mr. Gilbert H. Hicks, in charge of the seed investigations of the division of botany, has made tests of all seeds distributed annually by the government under act of congress, and has established a tentative standard of purity and vitality for different seeds.

Only two states, so far as known, have laws on the subject of commercial seeds. North Carolina, in 1891, enacted that all vegetable or garden seeds offered for sale in that state should bear the date when the seed was grown, plainly marked on the package containing the seed. Maine, during the present year, passed a law requiring that all agricultural seeds, in bulk or package of one pound weight or more, shall be accompanied by a guarantee of their percentage of purity and freedom from foreign matter. This action was probably due to the agitation of the noxious weed question in Maine and is certainly a step in the right direction. Professor Harvey of the Maine station believes that the agricultural seeds and the feeding stuffs shipped into the state from surrounding states are the sources of the seeds of the weeds against which they are compelled to wage war.

SOME RESULTS OF SEED TESTS, 1897.

The following tables show the results of some tests made during the current year. The seeds were bought in February, 1897, direct from the different seedsmen, by outside agents of the station, and hence the dealers were not aware that the seeds were to be used for testing. The seeds were supposedly of the crop of 1896. The spring test referred to in the tables was made in May and the fall test in August, from seed from the same packages. The tests were all made in sand mixed with a little black loam, on benches in the greenhouse, and all were subjected to the same conditions of soil, temperature and moisture.

The tables show the number of seeds of each kind planted; the dormant period, or the time in days from date of planting until the first sprout appeared; the total number of plants that appeared at the end of the first, second, third, fourth, tenth and fourteenth days respectively, after germinating plants appeared; the percentage of germinating seed in each test; the average of the two tests; and lastly, the general average of vitality of all the seeds from each separate seedsman. The seeds were not tested for purity nor for the reliability of the varietal name.

The vitality tests show that for the most part they were fairly good seed, but still considerably below the standard established by European and American tests. It will be noticed, too, that some seedsmen ranked considerably above others in the general average vitality of their seeds in both tests. There was in the case of some seeds an increased vitality at the second test, while in many others the percentage of germinable seeds had decreased materially. In most seeds the decrease would naturally be looked for if any change was to be expected. In the seeds of cucurbits (pumpkin, squash, melon, cucumber, etc.), however, the almost uniform increase in vitality at the later test is in accordance with both popular belief and the results of many experiments made by different investigators. It is believed that most melon seeds germinate best when two or three years old.

It is intended to lay in such a supply of material as will enable these tests to be continued for several successive years. It will thus be possible to determine the gradual decrease in vitality of seeds, due to increasing age. It is

certain that individual tests are of little value, but that by the careful comparison of many results, with due regard to all external conditions, important facts and principles may be established in relation to seeds.

SEEDSMAN "A."

SEEDSMAN "B."

SEEDSMAN "O."

SEEDSMAN "D."

SEEDSMAN "E."

A PARTIAL BIBLIOGRAPHY OF AMERICAN SEED TESTING AND SELECTION.

It is the intention of the author to complete this bibliography as fast as time and facilities will permit. The hope that it may be of some use to those interested in seed testing is his warrant for publishing it before completion.

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DEPARTMENT OF ZOOLOGY, ENTOMOLOGY AND GEOLOGY.

HERBERT OSBORN, PROFESSOR.

With the exception of the addition of a course in embryology in the first term of the senior year, the course of study in this department remains essentially the same as heretofore, and is fully outlined in the college catalogue.

The equipment in way of apparatus and collections has materially increased during the biennial period and the opportunities for thorough work in the lines covered in the department thereby enhanced.

In the laboratory the addition of new microscopes and a rocking microtome, with a number of minor pieces of apparatus, and for the classroom a projection lantern outfit with a large number of lantern slides in zoology and geology, are the most important.

The additions to the collections have been numerous, and, while but few single additions of special importance have been made, the aggregate has given us a very decided gain. A fine bactrian camel was secured through the efforts of one of our graduates, Dr. E. K. Paine, at a cost so slight as to make it practically a donation. We have also secured a fine specimen of a bull fur seal and a young of the same species from President Jordan of the Leland Stanford Jr. University, at a cost representing simply the expense of preparation and so small as to be really a gift. Specimens of kangaroo, Rocky Mountain goat, elk and smaller mammals, and a number of birds have been added, among the latter a golden eagle from Mr. Mann, of Algona. Some birds of paradise, toucans and parrots secured by purchase may also be mentioned.

A large number of insects have been secured by our own collecting in the vicinity of the college and at other points in the state, especially Sioux City, Little Rock, Cherokee and Burlington; a fine series of *Hemiptera* from Mexico from Professor Townsend, and other collections of insects from Montana, Cuba, and Kentucky obtained by purchase or exchange.

The collections in geology and mineralogy have been enriched by additions of a series of educational specimens donated by the United States Geological Survey; a series of Lake Superior rocks, especially valuable as representing the typical formations studied in that region; a collection of rocks made by Dr. Beyer in his recent Russian trip, including especially, series from the Ural Mountains; many photographs; and a series of thin sections of typical rocks prepared in Germany. Dr. H. F. Bain, of the State Geological Survey, has deposited a valuable series of rocks and minerals, which, while subject to withdrawal, will be of great service in the department. We have also had the gift of a number of fine samples of the "Iowa marble" from the Le Grand quarries. If we add to these the numerous specimens collected by the department in the ordinary course of work, and sundry donations from students, it will be seen that there has been a very substantial growth in this line.

As usual, we have had frequent calls for information and the determination of specimens in all these lines, and it is evident that our collections are in this way useful to a large number of people outside the number of students who have daily access to them.

DEPARTMENT OF GENERAL AND APPLIED CHEMISTRY.

A. A. BENNETT, PROFESSOR.

The course of instruction in this department occupies two and one-half years, which may be supplemented by two years of graduate study. It is the aim to improve the means and methods of instruction from year to year. During the biennial period just past there has been added facilities for the study and practice of assaying and metallurgy and blowpipe analysis. These branches of applied chemistry occupy a large room in the basement, and is fitted with tables, furnaces, balances and other necessary apparatus for carrying on the processes of assaying and blowpipe analysis. The room and fittings accommodate sixteen students working at one time. Each table is supplied with gas and an air blast, the latter being especially useful to the blowpipe analyst.

The course of chemical instruction in the course in mining engineering begins in the middle of the sophomore year and extends throughout the remainder of the course. The work forms a good foundation for the application of chemical principles to mining problems. This work in applied chemistry is open to students in other courses under the proper conditions.

The other courses of study embrace general chemistry, qualitative and quantitative analysis, elementary organic chemistry, preparation of organic compounds, organic analysis, ultimate organic analysis, and physiological chemistry. Students who carry the study of chemistry through the undergraduate course may pursue the study two years longer as graduate students

The student electing chemistry in his junior and senior years completes his work by a thesis on some subject connected with the special work he has pursued.

Teachers of chemistry in the public schools of the state will find here good advantages for the laboratory study of chemistry, the only really profitable method of study. A year's study will give a good foundation in general chemistry and qualitative analysis.

The laboratory is very well equipped with apparatus and chemicals for the work open to students. It has accommodations for over 200 students.

The cost to the students is small when compared with the usual charges. No fees or tuition are charged, but merely the cost of the apparatus and chemicals actually used.

The method of instruction is a combination of recitation and laboratory study. The work done in the laboratory is the basis of the recitation and always precedes it. The time of the head of the department and two instructors is continuously employed in giving instruction in the class-room and in the laboratory.

DEPARTMENT OF AGRICULTURAL CHEMISTRY

J. B. WEEMS, PROFESSOR.

I have the honor of presenting the following report for the department of agricultural chemistry for the years 1895-1896 and 1896-1897:

The past two years has been a period during which there has been a great many improvements made in the equipment of the department. The beginning of this period found the department with little or nothing with which to meet the demands made upon it for instruction in agricultural chemistry, and the present time finds the department equipped to such an extent that it can meet most of the demands made by the students in agricultural chemistry.

The general analytical work of the department has been largely work for the state geological survey and the state dairy commissioner. The value of the apparatus, chemicals, etc., belonging to the department is given below, and for comparison the inventory of November 1, 1895, is presented:

	Nov. 1, 1897.	Nov. 1, 1895.
Apparatus....	\$ 711.81	\$ 36.02
Chemicals.....	83.69	2.95
Office furniture, etc	90.08	38 00
Total	\$ 855 58	\$ 76 97

DEPARTMENT OF MATHEMATICS AND POLITICAL ECONOMY

E. W. STANTON, PROFESSOR.

The following schedule shows the classes taught in this department during the biennial period:

TAUGHT BY THE HEAD OF THE DEPARTMENT.

CLASSES.	RECITATIONS PER WEEK.	NO. OF STUDENTS.	
		1896.	1897.
First term—			
Calculus, first division.....	5	21	25
Calculus, second division.....	5	14	13
Plane trigonometry (ten weeks).....	5	39	32
Algebra, first division	5	48	40
Political economy, senior.....	5	17	18
Second term—			
Analytics, first division.....	5	22	25
Analytics, second division.....	5	31	24
Geometry	5	32	41
Political economy, junior.....	5	82	80
Political economy, senior.....	3	..	5
Theses	--	10	7

TAUGHT BY MISS ROBERTS.

First term—			
Trigonometry, second division (nine weeks).....	5	36	35
Trigonometry, third division (nine weeks).....	5	43	37
Algebra, second division.....	5	43	45
Algebra, third division.....	5	37	24
Spherical trigonometry (seven weeks).....	5	25	15
Spherical trigonometry, second div. (seven weeks)	5	24	10
Second term—			
Geometry, second division.....	5	23	11
Geometry, third division.....	5	24	15
Geometry, fourth division.....	5	33	27
Advanced algebra, first division	3	24	23
Advanced algebra, second division	3	26	22

TAUGHT BY SECOND ASSISTANT.

First term—			
Algebra, agricultural division	5	21	27
Second term—			
Algebra, agricultural division	3	30	28
Algebra, preparatory course	5	25	35

In addition to the classes taught by the second assistant she had charge of the accounts in the secretary's office.

The work of the department during the last two years has had in it much of encouragement. In the mathematical classes the requirement that the student must have a satisfactory record in the lower study before advancing to the higher has been rigidly enforced. Special pains have been taken to give to all the opportunity of gaining a thorough mastery of the principles involved in the elementary study, and of acquiring expertness and accuracy in their application. The student has then been held to the strictest accountability as to results, and admitted to the higher work only upon satisfactory proof that he could carry it forward successfully. The effect upon the department has been in every way satisfactory. Experience has shown fully that as many enter the advanced classes under these strict requirements as under lax regulations; while the work accomplished is of a higher order.

The advance in the requirements for admission and the consequent changes in the courses of study decided upon at the last annual meeting of the board of trustees, will necessitate a reorganization of the mathematical work. The greater portion of the algebra which has hitherto been taught in the first term of the freshman year together with plane geometry, until now included in the course of the second term, will be transferred to the academic year. The first half of the freshman year will hereafter be devoted to advanced algebra, to which class no one can secure admission except upon the basis of a satisfactory record in the algebra of the academic course, or upon examination held under the direction of the mathematical department. Solid geometry and plane trigonometry will be completed in the second term of the freshman year. Analytical geometry and calculus can be taken in the first and second terms of the sophomore year, being required studies in the engineering courses and optional studies in the course in science and the woman's course. Advanced calculus is granted as an elective in the science course for the first term of the junior year.

In order to maintain the present standard in the higher mathematical studies, the admission requirements to the freshman mathematical classes will need to be adhered to with great strictness. The student taking up the work of that year must not only be familiar with the general principles of algebra through equations of the second degree, but he must also be acquainted with their application to the class of examples such as are met with in the higher branches of the science of mathematics. To insure this, it will be of great advantage, even to those who have had considerable experience in algebra, to begin work at college in the spring term and enter the class in algebra of the senior term of the academic year.

The last biennial period has been one of special interest in the political economy section of the department. The general public desire for information concerning economic questions has been reflected in the large enrollment in the classes in political economy and the interest and enthusiasm shown in the work. Two terms are devoted to this subject. In the first, the student is made acquainted with the laws of production, the principles of money, foreign trade, tariff and taxation, the influences which affect exchange, and the various theories of distribution and consumption. In the second term, the history of economic development is studied. During the last year a special class was formed for the study of socialism. The class did excellent work, and the effect upon them of the thorough investigation of socialistic theories was most

wholesome. Out of knowledge comes conservatism. It is to be regretted that the pressure of other duties will not permit a continuance of this class during the coming year.

But little has been done during the biennial period upon the subject catalogue of the economic section of the college library. Its completion is exceedingly desirable. In addition to being a great help in the department work, it can be used to good advantage by the college societies. Much of the work of these societies in debate is along economic lines. When the subject catalogue is completed it will furnish a ready means of referring to authorities, and will thus greatly increase the value of this portion of the library to the student body. The appropriation of \$100 made by the board to the department for work of this kind will permit the employment during the coming year of a student taking the advanced course in economics, who can, under the direction of the head of the department, do much to advance the catalogue toward completion.

It will be noticed that the number of students receiving instruction in the department during the last year was 365. The entire cost of this department and of the secretary's office, including salaries and all other expenses, is less than \$4,000 annually.

REPORT OF SANITARY AND PATHOLOGICAL DEPARTMENTS.

W. E. HARRIMAN, PROFESSOR.

I have the honor to report the general condition of two departments for the biennial period ending November 10, 1897.

THE SANITARY DEPARTMENT.

The college has passed through a most fortunate two years in the matter of health, no deaths having occurred at the college during the period. By economical management, the expense of the department has been kept within the fund accruing from the students' deposit of \$1.25 per term. No serious epidemics have gained foothold among the students during this period. Measles appeared once, but the epidemic so common in the history of the college was confined to one case this year. Prompt isolation thorough disinfection, and fumigation associated with open warm weather, made control of the contagion possible.

THE PATHOLOGICAL DEPARTMENT.

This includes histology, pathology, physiology and therapeutics. The expense occurring in connection with these four studies has for the past two years been covered by a total yearly appropriation of \$100. The students in pathology and histology are required to pay a laboratory fee varying from 50 cents to \$1. The facilities for teaching in this department have not substantially improved during the present period covered by this report. Our present laboratory is not large enough, but it has, notwithstanding this fact, met the requirements fairly well.

DOMESTIC ECONOMY.

GERTRUDE COBURN, PROFESSOR.

Having had in charge the department of domestic economy during the years 1896 and 1897, I have the honor of submitting the following report:

The removal of the department in 1896 from south hall and its reestablishment in domestic economy hall were accomplished without considerable interruption of the class work, which was continued according to the course outlined in the college catalogue of the preceding year. Necessary repairing and remodeling being done, additional furnishings were planned, and purchases and accommodations provided for more and larger classes; so that, although not yet entirely painted and furnished, the rooms are now so convenient and adequate as to facilitate work in the household arts and sciences that is at once effective and enjoyable. The interest and counsel of your building committee and of the steward, Mr. J. F. Cavell, made possible in large degree the easy completion of this formative work, the expenditure for which was authorized, with the appropriation of \$900, at your meeting in May, 1896.

To the course adopted before I assumed charge of the department, sewing (including hand and machine work, garment cutting and dressmaking,) had been added. The interest manifest in this work and the excellent results already attained are sufficient to encourage its continuance and extension.

The study of domestic economy was formerly given place in only the ladies' course, while many young women were classified in the science course. The arrangement has been so modified by the committee on course of study that all women in the two courses are now expected to devote a part of their time during their first two years to this subject, and during the third and fourth years are allowed to elect to continue it.

To make the work more comprehensive or more directly effective other minor rearrangements have been made, and the plan outlined in the catalogue. The design is that the student having one lesson a week during six or more of her eight terms in college shall have the privilege of becoming intelligently and practically familiar with the subject of home-keeping; the location, construction, finishing, furnishing, lighting, heating, and cleaning of the house; the buying, keeping, combining, cooking, and serving of the food; the selecting, designing, making, and cleansing of the clothing; and the care of the personal health in all respects.

The numbers of classes and of pupils taught by me during the four terms have been as follows:

Year.	Term.	Class.	Divisions.	Subject.	Hours per week	Number.
1896	S.	Sophomore	4	Cooking	4	26
1896	F.	Freshman	3	Cooking and hygiene	4	24
1896	F.	Senior	1	Cooking	4	16
1896	F.	Sophomore	1	Sewing	2	22
1897	S.	Freshman	1	Sewing	2	21
1897	S.	Sophomore	3	Cooking and hygiene	4	24
1897	S.	Junior	1	Sewing	2	15
1897	S.	Special	3	Cooking	3	26
1897	F.	Freshman	2	Cooking and hygiene	4	22
1897	F.	Sophomore	1	Sewing	3	11
1897	F.	Junior	1	Sewing	3	11
1897	F.	Junior	1	Cooking	3	11
1897	F.	Senior	1	Cooking	3	11
Total						320

Besides teaching these classes I have personally planned and arranged all of the laboratory work, selected and purchased the daily supplies, supervised the housekeeping, kept the accounts, conducted a considerable business correspondence, made a complete new card inventory, and prepared and delivered in different parts of the state three public lectures upon this department of the college instruction. In addition to their regular class work (which included the serving of about twenty meals each year to themselves and guests) the cooking classes have prepared and served the light refreshments at ten receptions in Margaret and Morrill halls, the average number of guests at each of which was about 100.

The current expenses of the department have been met by the annual appropriation of \$300 for that purpose, supplemented by laboratory fees paid by the pupils for individual supplies actually used in the lessons. Aside from the purchase of cooking and sewing materials the large item of expense has been student help for housekeeping and janitor work.

Having had no assistant in teaching I have been unable to accomplish all the instruction desired for the classes, and Mrs. Irving W. Smith has kindly and most efficiently prepared the lectures and conducted the recitations in personal hygiene. This she has done without special remuneration.

In order to continue the work as at present arranged and to further enlarge its benefits, it will be necessary to provide another teacher for the department. This and other recommendations are made in detail in my annual report for 1897.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

JAMES RUSH LINCOLN, PROFESSOR.

I have the honor to report the work in the department of military science and tactics to have been as successful during the past two years as it is possible to make it under the conditions existing. Without an armory it is impossible to drill in inclement weather, as our work must all be done out of doors. While we have a fine drill ground, much of the elementary work and, too, that of the greatest importance as to the set-up of the cadet, has to be omitted on

account of the loss of so much time at the opening of our college year. We have no place indoors where a single company may be drilled, and the weather often prevents outside work being done. The state property is poorly cared for and much more is destroyed than would be with proper armory facilities for its care. We should have an armory at least 60x120 feet in size. This could be used also for a gymnasium, as is much needed also, and as an assembly room for such occasions, as our present chapel is entirely too small to accommodate the attendance. With a proper armory the military work could be made at least 30 per cent more efficient and useful. The school for officers of the Iowa National Guard, held at the college last January and February, required the use of an armory, but the work necessarily had to be theoretical throughout. This school could be made of great advantage to the state as well as to the guard. The order promulgating the rules and regulations for this school are herewith enclosed to show the character of work outlined. With a proper equipment this department of the college can be of great advantage to the state guard.

GENERAL ORDERS {
NUMBER 28. }

STATE OF IOWA,
ADJUTANT-GENERAL'S OFFICE, {
Des Moines, Nov. 10, 1897. }

The following regulations for the school of instruction for officers of the Iowa National Guard, are published for the information and guidance of all concerned.

BY COMMAND OF GOVERNOR DRAKE:

HENRY H. WRIGHT,
Adjutant-General.

REGULATIONS FOR THE SCHOOL OF INSTRUCTION FOR OFFICERS OF THE IOWA NATIONAL GUARD.

1. The school is officially designated, "The school of Instruction for officers of the Iowa National Guard."
2. The Commandant of the school shall be appointed by the Commander-in-chief.
3. There shall be a Secretary of the school, appointed by the Commandant.
4. The instructors shall be appointed by the Commander-in-chief, upon nomination by the Commandant of the school.
5. Officers, members of the student class, shall be designated in orders by the Commander-in-chief.
6. The school shall be governed by the rules of military discipline prescribed for the guard, and by the regulations of the school.
7. The Commandant shall make a report of the progress and wants of the school after the close of each year's session.
8. The secretary of the school shall be the custodian of the school records. He will be responsible for the school fund, for incidental expenses, and for all property purchased therefrom.
9. All official correspondence relating to the school, from members thereof, shall be addressed to the secretary.
10. The school shall be divided in five departments as follows:
First.—Department of Tactics.
Second.—Department of Law.
Third.—Department of Engineering.
Fourth.—Department of Hygiene.
Fifth.—Department of Strategy.
11. The Commandant shall assign the instructors to the several departments.
12. The departments shall embrace the courses of study as follows:

DEPARTMENT OF TACTICS.

Infantry Drill Regulations.
Manual of Guard Duty.
Small Arms Firing Regulations.

Infantry Fire and its use in Battle.
 Service of Security and Information.
 Organization and Tactics.
 Lecture, description and use of the Horse.

DEPARTMENT OF LAW.

Military Law.
 The Law of War.
 Civil Functions and Relations of the Military.
 Iowa Military Code.
 Administration.
 Troops in Campaign.

DEPARTMENT OF ENGINEERING.

Military Topography and Sketching.
 Field Engineering.
 Field Fortification.
 Road and Bridge Building.
 Signaling.

DEPARTMENT OF HYGIENE.

Selection of Soldiers.
 Military Clothing.
 Food and Alimentation.
 Camps, Bivouacs, Marches.
 Cleanliness, Exercise.
 Disposal of Waste.
 Drainage and Sewerage.
 Construction and Care of Sinks.
 Potable Water, Quality and Quantity. Chemical Examination, Common Impurities and Methods of Purification.
 Ice, use of.
 Preventable Diseases Common to Armies in the Field, and Precautions Against the Same.

DEPARTMENT OF STRATEGY.

Military Policy and Institutions.
 Military Geography.
 Logistics.
 Staff Duties.
 The Conduct of War.
 Military History.

13. Recitations shall be classified as "Satisfactory" or "Unsatisfactory." Each unsatisfactory recitation shall at once be reported to the commandant, who shall require an explanation in writing from the officer reported, and such communication shall be filed and preserved in the records of the school.

14. The study of text-books, and recitation therefrom, shall be supplemented by lectures and exercises in application. Recitations shall not, as a rule, exceed two hours.

15. Instructors shall report in writing, on the day of occurrence, all student officers late or absent from recitation or exercise, or for the neglect of proper preparation for the same; and such report must be filed with the records of the school.

16. All examinations must be written, except in Drill Regulations, which shall also include such exercises with troops as are possible, and all members of the class shall be given identical questions. In the case of an officer not examined with his class, owing to sickness or other cause, he shall be examined as soon as practical thereafter, as provided in orders; for this examination the topics and questions shall be similar to, but not identical with, those given in the general examination. The examination papers shall be filed with the records of the school.

17. The examiner shall assign to the student a mark on his examination papers, the mark varying between 0 for a complete failure, and 4 for a perfect paper. The average of the marks given in the several departments shall constitute the examination mark of the school.

18. To assist in fixing the relative proficiency of officers, the instructor in the department of Tactics shall note the manner in which students perform their duties in all military exercises. The ability to impart instruction, to command, to see what is required, and the soldierly bearing of an officer, all shall be considered in marking.

19. The values to be assigned to the different departments, in ascertaining the figure of merit, shall be as follows:

Department of Tactics, 4 } Practical work, 2.5.
 } Theoretical work, 1.5.
 Department of Law, 2.
 Department of Engineering, 3 } Practical work, 1.5.
 } Theoretical work, 1.5.
 Department of Hygiene, 1.
 Department of Strategy, 2.

20. For record at the school, the classes at each session of the school shall be arranged in order of merit, special proficiency in any subject to be noted; but publication of the class standing shall be limited to an alphabetical arrangement in four grades, viz:

First.—Distinguished, mark of 4.

Second.—Proficient, mark of 3.5 and over.

Third.—Satisfactory, mark of 3 to 3.5.

Fourth.—Unsatisfactory, mark below 3.

21. Officers who pass successfully through the entire course of instruction, shall receive a diploma setting forth their proficiency. This diploma to be signed by the commandant, secretary and instructors.

22. Disbursements of the school fund, for incidental expenses, shall be made only upon the written order of the commandant, and vouchers shall be taken for all expenditures.

23. The authorized text-books shall be selected upon recommendation of the school staff and approval of the commandant.

24. Student officers shall be required to purchase their text-books.

25. Instructors shall submit to the commandant, at the close of each session of the school, any suggestions or recommendations they may have to make regarding the course of instruction and the text-books used in their respective departments.

RHETORIC AND LATIN.

MARGARET DOOLITTLE, PROFESSOR.

Rhetoric.—The course is the same as two years ago. The interest in the work is good, and the work itself thorough with a growing demand along the line of argumentative discourse and theme writing. Students in courses not including the more advanced rhetoric frequently take it as additional work. English is required to some degree in all courses.

The object of the first term's work is to familiarize the student with the principles of correct and effective expression. A knowledge of English grammar is required for entrance, but there is a practical review of the more important principles, including punctuation and capitals.

In this term special attention is given to clearness and aptness of speech; this involves considerable drill in the building of words from roots, and in the discrimination of synonyms. The work of the text-book is supplemented by library reference and lectures, together with a brief history of the language. Such written exercises as are practical are prepared and criticised.

During the second term (half year), all freshmen, except of the veterinary course, pursue the study with a view to an effective use of words and an appreciation of good literature. Preparatory to the study of literature later in the course, the principles of criticism are studied. The more important kinds of

oral and written discourse are studied, analyzed, and produced. All written exercises are critically examined, and most of them returned to the student for further work. Oral and written reviews are so planned as to be both a test of matter learned and a drill in expression.

A large part of such work is done by outlines and lecture notes that require individual investigation of the topics in the library. The science courses and the agricultural course have rhetoric in the first half of the sophomore year. Here rhetorical analysis, a study of the laws and forms of thought and practice in debate and theme writing constitute the work.

Special Criticism.—The sophomores in the course for women and the science course write one paper each term, and the juniors and seniors in all courses write one oration each year. All these are carefully criticised and changes suggested.

English Grammar.—Preparatory students study English grammar the last half of the year, *i. e.*, all the time that the preparatory department is in existence. Letter-writing and the simple kinds of discourse receive attention here.

Latin.—The work in Latin is not changed. It is studied two years chiefly as a supplement to the English language and to the sciences, and is therefore limited to the courses related to these studies.

DEPARTMENT OF ENGLISH LITERATURE AND HISTORY.

W. H. WYNN, PROFESSOR.

English Literature.—The aim is to secure in the mind of the student a growing interest in the "best thoughts of the best minds" in the artistic use of the mother tongue. To this end courses are arranged, varying from year to year, for the direct study of the works of the great masters of poetry and prose, accompanied by lectures and familiar talks, critical and bibliographical, relating to the times and influences, social and æsthetic, of the epoch under review. The student is required to reproduce the work of the class room, in a neat and satisfactory form, at the end of his course, and he is urged to devote as many hours to systematic collateral reading in the library as his time will admit.

The study is confined to the junior year, in the ladies' and scientific courses, three hours each week being given to it during the spring term and five hours during the fall term.

History.—In keeping with the practical aims of our industrial curriculum the courses in history are arranged so as to bear, in large measure, upon the life and history of our own American nation and the absorbing social and political questions of our own times. Beginning in the preparatory department, three hours a week are given to the thorough study of the elementary, or groundwork, history of the United States, which may serve as a basis for the special work that awaits the student in this line in the senior year.

The first term of the freshman year is devoted to the close study of the rise and development and fall of the Roman republic, in a series of lectures and class room papers, designed to illustrate the peculiar struggles of that great people in their experiment with free institutions.

The same course, essentially, is given to the young ladies of the ladies course in the first term of their sophomore year.

In the second term of the freshman year one epoch or more in English history is selected and made the basis of somewhat enlarged reading in the library or in standard works in English history of easy access to the student, the results to be gathered up in a note book subject to inspection when the work is done. Essentially the same work is required of the young ladies in the second term of their sophomore year.

The first term of the senior year is devoted to the history of the development of the United States. It has been found best in this study—a vein much worked at this time by eminent specialists of our own country in the formative periods of our history—to take up one or more of the decisive epochs and trace out the influences and causes, social, political and religious, determining the course of events.

The History of Civilization is the study pursued by the seniors in their second term. Inasmuch as the sociological treatment of this subject is still in its tentative stage, it has been thought best to put into the hands of the students, for thorough mastery, Guizot's History of Civilization, a book which is said "to have formed an epoch in the history of education," and concerning which an eminent authority has said: "Even at the present day, perhaps, no other historical book is capable of stirring more earnest or fruitful thought in a thoughtful student." This is supplemented with a brief course in the French Revolution, given in lectures, which the student is expected to follow up with researches in the library, and papers to be read in the class.

REPORT OF THE FRENCH AND GERMAN DEPARTMENT.

LIZZIE MAY ALLIS, PROFESSOR.

French.—French may be elected in the ladies' course in the junior year and in the first term of the senior year. By the unanimous request of the senior class, the study has been continued through the second term of the senior year. Three times the usual number of students began the study of French the present year—1897. Duffet's "French Method" is used as the text-book for the grammatical work. This is supplemented by conversation and dictation exercises. Particular attention is paid to oral reading and sight translation.

"Contes de Fees," Joynes; "L. 'Abbe Constantin," Halevy; "Fleurs de France," C. Fontaine; "Le Misanthrope," Moliere; "Athalie," Racine; "Le Tour du Monde en Quatre—Vingts Jours," Jules Verne, are translated and carefully studied.

German.—German is an elective study in the freshman and sophomore years, in the ladies' course and in the freshman year, and first term of the sophomore year in the course in sciences as related to the industries.

So great has been the interest in German that every member of the sophomore class signed a petition to the faculty, asking permission to pursue the study of German a third year, and to take it as an "extra" study. The number studying German the present year of '97 is four times as great as last year. During the spring term the class commencing German was so large and composed of representatives from so many classes in college that it was necessar

to divide the class, and to have two recitation periods for the freshman German. During the first term the student uses as text-book Thomas' "Practical German Grammar." Continued drill is given in the principles of declension, conjugation and syntax.

In the second term the grammar is completed and Bronson's "Stories by Grimm, Anderson and Hauff" is translated and used for oral and written composition work. This is supplemented by conversation, and as much as possible the recitation is conducted in the language taught. The second year is devoted to the works of Goethe, Schiller and Lessing, conversation and study of syntax being continued throughout the course.

ELOCUTION AND ORATORY.

ADRIAN M. NEWENS, PROFESSOR.

This department is now a department by itself. Heretofore, up to the year beginning 1896, the subject was under the supervision of, and usually taught by either the librarian or the teacher of music. The work has now increased to the extent of employing one person's entire time.

We are now pursuing a policy and a line of elocutionary work somewhat opposed to the schools of elocution and methods used by their graduates. The following sketch will serve to present our methods of study:

The entire freshman class (except the veterinary students, who have no work in the department at all, and the engineering students who take but one term), are required to take work in the department throughout the year. Their study consists of text-books and reading, with some recitation and composition work in the second term.

Throughout the junior and senior years a text-book is used more or less, but is discarded to give place to more practical work, that of the platform. Here the student presents to the class speeches of his own composition and preparation and those bits of literary and oratorical gems which may help in, and serve to illustrate, the power of public speech.

We work upon the principle that each man and woman has an elocution of his own, and as his personality speaks out in his address, we endeavor to build up his *talking powers*. He has the opportunity to master himself and others—his class—from week to week.

No *system* of gesture is studied at any time. The subject is not mentioned only in lectures and to individuals when they are capable of making such a means of expression supplement their recitations and speeches.

Extemporaneous speech is the subject of our attention during the last half of the senior year. This is the most valuable of all our work to the student because it is the practical application of all that which has gone before.

In the course for women the same general plan is pursued with some modifications. Physical culture drills are introduced in the junior year to satisfy a demand, and to advance the plan of work arranged for them. But throughout the course stress is placed upon good speaking.

Supplementary to all the work here outlined lectures are given on such subjects, as, public address, talking, conversation, extempore speech, art, general and specific, orations, literature and orators, etc.

ORATORICAL.

Each junior and senior is required to give one oration in public. These receive rhetorical criticisms and oratorical drill before they are given in public. It was a wise step on the part of the board of trustees who dictated the policy of public orations. This principle is involved, viz.: It is as important to be able to tell what one knows on any given subject in an interesting, commanding and persuasive manner as to know the thing itself.

College men will be leaders in local, sectional, state, and national affairs, whatever their occupation in life may be, and this work is sure to be of untold benefit to the students and graduates of the institution.

PRIVATE WORK.

Some special private students are taken where and when time and regular work permits. Students come to the college for special work of one, two, three, and four term courses. Many high school and sister college students come for coaching on orations and declamations preparatory to home, sectional, and state contests. The fact that these come to us for such drill is, modestly stated, complimentary to the general and specific work of the department.

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SIXTEENTH BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES.

OF THE

Iowa Soldiers' Orphans' Home

AND

HOME FOR INDIGENT CHILDREN.

JUNE 30, 1897.

DES MOINES:
F. B. CONAWAY, STATE PRINTER.
1897.

BOARD OF TRUSTEES.

P. DOE, *President*..... Davenport, Iowa
Term expires March, 1898.

MS. MARY J. KETCHAM, *Secretary*..... Mt. Pleasant, Iowa
Term expires March, 1902.

G. BROWN, *Treasurer*..... Marshalltown, Iowa
Term expires March, 1900.

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RELEASE

ADMINISTRATION OF THE HOME.

<i>Superintendent</i>	M. T. GASS, M. A.
<i>Assistant Superintendent</i>	T. C. DALZELL
<i>Matron</i>	GRACE I. GASS
<i>Physician</i>	WILLIAM L. ALLEN, M. D.
<i>Librarian and Music Teacher</i>	HENRIETTA WARREN
<i>Assistant Matron</i>	MRS. T. C. DALZELL
<i>Hospital Nurse</i>	NORA ARMSTRONG

COTTAGE MATRONS.

1. Miss M Leonhard,	10. Miss Mary Worthington.
2. Miss Mary Hilles.	11.
3. Miss M. E. Zeimer.	12. Miss M. E. Meadley.
4. Miss Julie Brashear.	13. Miss Alice P. Mead.
5. Miss Lettie S. Van.	14. Miss Ella Plumly.
6. Mrs. Ellen Crisman.	15. Miss Eliza R. Little.
7. Miss Nellie Hutchinson.	16. Miss Emma Knerringer.
8. Miss Lucy G. Lockhead.	17. Mrs. C. E. Dinsmore.
9. Miss L. Howard.	18. Mrs Alice Smith.

GENERAL SUPPLIES.

Miss Esther Porter.	Miss Louisa J. Coy.
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EDUCATIONAL DEPARTMENT — TEACHERS.

Miss Lillian Bandy.	Miss Ella Pinkerton.
Miss Anna Russell.	Miss Mary G. Murphy.
Miss Ella V. Wetzell.	Mrs. Margaret McGrath.
Mrs. Emily J. Rowell.	Miss Minta Parry.
Miss Angela Reynolds.	

<i>Kitchen Manager</i>	Miss Kate Leary
<i>Laundry Manager</i>	Miss Mary Coen
<i>Sewing Room Manager</i>	Miss Maggie Cahill
<i>Pantry Manager</i>	Miss Maggie Reinbott
<i>Children's Dining Hall Manager</i>	Miss Melissa Moore
<i>Engineer</i>	C. C. Green
<i>Shop Foreman</i>	J. W. Ferris
<i>Baker</i>	G. G. Schurr
<i>Farmer</i>	Ben Klotz
<i>Teamster</i>	William Klotz
<i>Shoemaker</i>	H. Ede
<i>Daywatch</i>	J. A. Martin
<i>Nightwatch</i>	F. M. Henderson

TRUSTEES' REPORT.

To Hon. Francis M. Drake, Governor of Iowa:

In presenting this, our sixteenth biennial report, for your consideration and approval, it is very gratifying to report that the work of the biennial period just past has been one of thorough success for the economic and moral interests of the state, and the education, training, and aiding to self-support of the 750 children who have found shelter within our institution within the past two years. Contributing to the good results of our work, and one of the principal factors in furthering the interests of the institution and its usefulness, has been the careful management of our superintendent and matron, aided at all times by a force of interested and earnest assistants in all the departments.

Good health has prevailed, and no accidents of serious nature have occurred during the two years, and as there were none during the previous biennial period we can make the remarkable statement that with an average enrollment of 460 children we have had but three deaths in four years and ten months.

The marked improvement in our school, the enthusiastic work and progress made in our industrial departments, the contentment and universal interest manifested by the children, have been very gratifying to all the friends of the institution, and to all persons interested in the work of rescuing, saving, and helping children to a higher life. The institution's work for the past two years commends itself.

The county poor house, the only refuge for children in some of our counties, saves from starvation and cold, while exposing its innocent child-inmates to criminals, lunatics, imbeciles, and all sorts of vice and examples of immorality, thereby training them to become paupers and state criminals, to be hunted down, tried at state expense, and afterwards supported by the state.

The aim of our institution is to encourage, educate, and help to self-support, and then place its deserving little inmates in homes where they will grow to manhood and womanhood under good influences and become useful citizens.

A vast amount of good is being done each year in aiding and preparing little people consigned to our care to become respectable and thrifty men and women; but a law which could be made use of in some instances, the enforcement of which would enable the officers of the institution to hold absolute control of children to prevent their returning to unworthy relatives and pernicious influences, would be of untold advantage.

Too often girls, who at an early age have been placed in our institution for shelter and support, after being cared for by the state until they arrive at promising young womanhood, are claimed by disreputable mothers and dragged down to a life of misery and disgrace. If full legal control were given to the trustees of our institution to place such children in good homes, either by indenture or adoption, when they are small, they would escape the danger of vicious influences of relatives who often claim them when they are at the age of 16 and we can no longer keep them, and we are powerless to interfere.

To aid us in this important part of our work, we ask you to recommend to the next legislature the passage of a law, whereby children abandoned by parents, children in homes of vice, houses of prostitution, dance halls, and gambling resorts may be rescued, and their custody be placed under the legal control of the officers of this institution until they arrive at their majority.

Most of the western states have such a law, and where it has been in force a number of years many innocent children have been rescued and transferred to good homes; and the fear of the enforcement of this law has been the means of less abuse of children. Should such a law be passed, it need not necessarily interfere with the laws now in force by which children are received and discharged, but could be made use of in instances where the present law fails.

We would also call your attention to the fact that children less than 10 years of age, too young to realize the meaning of crime, or to know right from wrong, are sent to the reform schools of the state by county officials, in order to place the cost of the support of their indigent children upon the state, thereby placing upon the state a burden which belongs to the county. A glance at the reports of our reform schools, showing a large percentage of their inmates to be from 7 to 10 years of age, will prove the importance of a law which will protect innocent children and place the responsibility of their care and support where it belongs.

A larger number of children has been admitted and a larger number has been discharged and placed in homes during this last biennial period than during any other in the history of the institution. Our excellent schools and the industrial departments, recently established, have been of great help in preparing our children to fill places in homes acceptably; and we are convinced that if laws were enacted giving the officers of our institution fuller authority over the disposal of children, and if county officials who make application for the admission of children would make an effort to secure parents' and guardians' consent for their children to be placed in good homes, our institution could receive, prepare, and place in excellent homes twice as many children as we now do, without increasing the cost of maintaining the institution.

APPROPRIATIONS.

The appropriations given us by the last general assembly have been expended for the purposes for which they were intended, and while they were much less than our urgent needs required they have placed us upon a better plane, and given us better facilities for carrying on our work than we have had before.

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LAND.

It has been found practicable and wise to give the Agricultural College at Ames, where the sons of well-to-do men can be taught the science of farming, a large tract of land. All other institutions of the state, where land can be made use of, have large areas of land.

Is it not doubly important to give the indigent boys of the state an opportunity not only to help support themselves, but to give them a practical knowledge of one of the most promising branches of Iowa industry? Several tracts in our vicinity can now be purchased at a reasonable price, but as the demand increases will soon be too valuable to be bought for farm purposes. We most earnestly urge as one of our greatest needs an appropriation for land.

COTTAGES

We still have seven cottages of one story, ill arranged and poorly ventilated. The need of more room, the comfort and health of the children, require that they be raised to correspond with the others already improved and enlarged.

HALL AND GYMNASIUM.

Our institution has neither chapel, hall, gymnasium, nor any place where all our children can be gathered together, outside of the dining-room. Our schoolhouse is also too small to accomodate all. We have no gymnasium. A hall which would be large enough to accomodate all the children is greatly needed for many purposes, such as Sunday services, lectures, entertainments, exhibitions, and so forth. We have \$3,750 resulting from the sale of property bequeathed to our institution seven years ago by Baxter Whiting, of Onawa. A careful estimate has been made of the cost of erecting such a building, and in addition to the Whiting bequest it will require \$6,250. Saying we are without such a building will, we hope, be sufficient to impress our next general assembly that one is much needed.

REPAIR AND CONTINGENT FUND.

Our institution buildings have an estimated value of nearly \$175,000, some of which have been built more than twenty years. Repairs are needed, which will involve considerable cost, during the next two years. Out of this fund we also pay the expenses of investigating homes for children, insurance, etc. The fences about the property are badly out of repair, and should be replaced by new ones to make the state property compare with the property about us. With the many demands from this fund already in sight, we feel the importance of urging a larger amount than we have received in the past.

SEWERAGE.

Our sewerage has always been carried into a creek near the institution. This creek runs several miles through pastures where cows are pastured, which supply the milk for the city of Davenport. The board of health of the city has recently notified us to abate what they declare to be an abuse, and we shall be obliged to connect with some of the city sewers in the near future. This, from the distance and elevation of our premises, will

involve considerable expense. The action of the city board of health is imperative in the matter, and an appropriation which will cover the cost is important.

FURNITURE.

Our furniture, in constant use with a family of between five and six hundred persons, soon gets worn and dilapidated, and requires replacing.

LIBRARY.

Our library, one of the principal and most profitable means of instructing and educating the children, has been much used, and the books badly worn. From the library fund juvenile papers and periodicals are supplied, which are read with much interest and profit.

INDUSTRIAL BUILDING.

The larger part of our industrial building is occupied by the girls, leaving only the basement for the boys. Our industrial work, which has been carried on under difficulties for the want of room, has been of such a satisfactory and pleasing character that we more fully realize the importance of another building, to be used by the boys exclusively. In this building, if one is given us, the boys will be employed in blacksmithing, carpenter work and tin work and such other branches of industry as will help them when they go out to do for themselves.

WATER-TANK.

Our water supply comes to us from the city water-works through a six-inch main over a mile in length. The water has a force back of it sufficient for a fire pressure at all times. The constant strain on our plumbing, and the great waste of water, which is paid for according to the quantity used, makes our water supply expensive. A water-tank which would hold a week's supply would be a profitable investment, as we could use gravity pressure and save many expensive repairs and much waste.

We call your attention to our most pressing requirements, arranged in the order of their importance, and hope they will receive your approval:

For land	\$ 6,000
For raising and improving seven cottages	11,000
For steam heating and improving enlarged cottages.....	700
For furnishing the enlarged cottages.....	1,500
For general furniture	1,500
For contingent and repair fund.....	5,000
For library.....	1,000
For boys' industrial building	5,000
For sewerage	5,000
For erecting a hall to be used for a chapel, kindergarten and gymnasium....	6,250
For cement walks.....	800
For water tank.....	1,500
For chaplaincy fund	500
For new boiler.....	2,500
For guns for the military company	300
For railroad spur.....	1,500

As a part of our report we present the reports of our superintendent physician and treasurer.

We very respectfully submit this, our sixteenth biennial report, for your consideration.

MARY J. KETCHAM,
Secretary.

A. P. DOE,
President.

SUPERINTENDENT'S REPORT.

To the Honorable Board of Trustees of the Iowa Soldiers' Orphans' Home and Home for Indigent Children:

I have the pleasure herewith to submit for your consideration the sixteenth biennial report of the Home of which you are the honored trustees, covering the period from July 1, 1895, to June 30, 1897, inclusive.

Through the two years just closed the home has enjoyed a period of uninterrupted prosperity and of marked success in attaining the objects for which it was designed. There have been cared for in the home during this period 719 children. This means that they have not only been fed and clothed, but trained and educated, both in school and in industrial pursuits, and thus better prepared to go out into the homes where they are to be placed. The Home has a more exalted and humane purpose than simply making it a place of detention where children can be held until some disposition is made of them. The state has wisely provided that they shall remain at least one year, with a view that they may receive such training and discipline as shall in every way make them more desirable members of families in which it is the ultimate object of the home to place them. To this end a well equipped school with a competent corps of teachers is maintained, which consists of a kindergarten and primary and grammar school, covering the first nine grades of public school work; so that our graduates are prepared to enter any of the high schools of the state. In addition to this there have been organized during the last two years several industrial departments where children who are old enough are given some kind of manual training. It is becoming more and more apparent, as the years go by, that the schools of the country are not doing for its youth what is most important for their subsequent welfare in confining their efforts to their intellectual training alone. It is realized that training in some kind of handicraft is important and quite essential to their future prosperity. Especially is this true of those whose success is to depend upon the labor of their hands, and in a home of dependent children this is largely the case. The provision already made for the industrial training of children here, I regard a move in the right direction and one that will be found of great advantage to them when they go out from here. As much can not be expected from such training in limiting it to boys and girls under 15 and 16 years of age, the limit of their time in the home, as though it were extended till they were of greater age; yet many will acquire a good degree of skill in the use of tools and in their various occupations, and all will learn habits of industry that will be of untold value to them when they go out to do for themselves. The girls' department is ample and well equipped for the industries that they pursue, but for the boys no separate apartment has been provided, though they number about 100 more than the girls. We are doing the best we can for them in the use of the basement of the girls'

building for their shop work. In the work provided for both girls and boys it has been the aim to employ them in a way, so far as possible, suited to their choice, and that would give them training and skill in doing those things that they would most likely be called upon to do when they leave the home; at the same time the work has been planned and the children so employed as to best serve the needs of the institution. Boys are employed upon the farm, in the bakery, engine room, and our cabinet and carpenter shop, where nearly all of our repairing is done and many of our improvements are made. The girls alternately work in the tailor shop, dress-making department, cooking school, and laundry, and about the buildings, so that they get a pretty fair knowledge of various kinds of domestic work, the older classes spending one-half day in school and the other half in their industrial training. This is accomplished with no necessary detriment to their school work, as the lessons of the half-day classes are prepared out of school and principally in the evenings

While this feature of our work has been in operation less than two years, I think its feasibility and practical utility have been so far demonstrated as to justify the expenditures made and warrant the same ample provisions for carrying on the work with the boys as have been made for the girls.

The school department has been thoroughly and efficiently carried on, and the results accomplished as reasonably satisfactory as could be expected where children are entering and dropping out of their classes at all times of the year. The work in vocal music has been a feature that is especially gratifying, and the manner in which the children read music and sing is a joy to the children themselves and a pleasure to all who hear them. There have been regularly ten teachers, including music and kindergarten teachers. The schools closed with an average membership of 476 and an average attendance of 471. This is an increase in membership of thirteen and in attendance of fourteen over that at the close of school in 1896. The average membership per room was fifty-two and nine-tenths and of attendance fifty-two and three-tenths pupils. In the first primary there was an attendance of sixty-one, in the second primary seventy-one, and in the third primary fifty-eight. These numbers are greater than any one teacher should be required to instruct and more than one can do justice to. If the number the coming year should be as great, which seems probable, I should advise the employment of another teacher. The school building contains only eight rooms designed for session rooms, but I think one of the rooms intended for recitation rooms can be utilized for smaller classes.

A religious service is held usually on Sunday afternoons, which some of the ministers or laity of the city, who are invited, conduct, and in addition to this some simple form of worship is held each evening in the cottages by their matrons.

Thus it will be observed that, while the intellectual instruction of the children is well provided for, their moral and religious training is of a general character and designed to be such as will inculcate moral and Christian principles acceptable to every one, and that will not prejudice any against their adopted religious faith.

In the last two years twenty-three have been graduated from the course of study and received diplomas.

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Aside from their school studies the children are encouraged to read books from the library, drawn for them by their matrons. They seem to appreciate this opportunity and avail themselves of it with profit and pleasure. A considerable number of periodicals and papers are also furnished to each cottage, adapted to the tastes and capacities of the children in them, and these have proved not only sources of valuable knowledge but a means of worthy entertainment and of cultivating a habit of good reading.

Ample opportunity is also furnished for the recreation of the children, and work and study are so interspersed with play and amusement as to make life in the Home the most enjoyable possible for the little ones under the circumstances. A military company has been organized for some time in which some sixty or seventy of the older boys are enrolled. This is regularly officered, and under the efficient direction of Captain Dalzell has acquired a very commendable degree of skill in military tactics and the manual of arms. It is an enterprise in which the boys themselves take great pride, and it has, I believe, exercised a great influence amongst them in cultivating a manly bearing and dignity. I wish their military ambition might be further gratified by procuring for them real instead of wooden guns.

HEALTH.

The health of the children in the Home has been most remarkable. There have been during the last two years but few cases of serious sickness and only three deaths, two of which occurred in October, 1895, and the other in March, 1896. Of the two former one died from rheumatism of the heart and the other of tuberculosis, and both were afflicted with these diseases when they entered the Home. The third case was one of spinal meningitis. It will be observed that for the last sixteen months not a single death has occurred, and the three mentioned are the only cases of mortality in the home since January 28, 1893, a period of nearly four and one-half years. This is all the more remarkable when you consider the sources from which children come and the condition in which they are brought to the Home. While this very gratifying condition of health is, no doubt, due largely to the regular habits of diet, cleanliness, and the wholesome character of their entire surroundings, the prompt and efficient service rendered by our Home physician, Dr. Allen, has contributed no small amount to the excellent degree of health enjoyed by the children. Prompt attention is always given to the first appearance of ailments of any kind, and I have no doubt that many epidemics have been warded off and lives saved by thus early placing the cases under treatment when they required it. The sanitary condition of the Home is most excellent and the degree of health enjoyed is far above what prevails in private homes, even under the most favorable circumstances.

IMPROVEMENTS.

At the last regular session of the legislature \$14,500 were appropriated for making improvements in the Home. While this was but a small per cent of what was asked and much less than was needed to do for the Home what we feel ought to have been done, it has been judiciously applied for

the purposes intended, and so far as the improvements have been completed the institution has been radically and permanently benefited and thus far better equipped to serve its purpose.

Five cottages upon the boys' side and one of the girls' cottages have been enlarged from one to two story buildings. This increases the capacity of these buildings so that, at least, thirty-five children may be cared for in them with a greater degree of comfort than twenty-five were provided for in the old cottages. No one can appreciate these improvements more than the children and matrons who have so long occupied the small cottages.

With the \$1,500 to complete the steam plant it has been extended into all the cottages and school building, and the coal stoves used for heating purposes are entirely dispensed with. The enlarging of some of the cottages and the heating of them all throughout, has increased the amount of space heated fully 30 per cent. Notwithstanding this, the heating has been done at an increased cost of only about 3 per cent during the past year over what it was for the first year of the biennial period, and with greater convenience and comfort to all. It was, however, accomplished by taxing our boiler capacity to its utmost extent.

Fifteen hundred dollars was appropriated for industrial building and equipment, and this has been devoted to enlarging the girls' industrial building constructed in part two years ago and completing it according to the original plan. It now amply serves for carrying on a cooking school and dressmaking and tailoring departments, purposes for which it was designed.

The appropriations made for furnishing enlarged cottages, general furniture, library, and repair fund have been expended, so far as available, in making needed repairs and supplying necessary furniture and purchase of books for library.

Of the \$1,000 obtained for cement walk, one-half has been drawn and expended in the construction of a new floor all around the portico and porches on the boys' side. The balance will be used before the close of the present season in renewing the floors in corresponding places on the girls' side of the grounds.

An ice house and cold storage has been built out of the amount appropriated for this purpose, and is now in operation. It was constructed through our own shop and largely with the aid of the boys' work, which gave an opportunity not only for their employment but enabled us to erect a much better building out of the funds than otherwise could have been secured. We now have storage for 150 tons of ice besides cooling rooms over which can be placed about twenty tons more.

The dental and oculist fund of \$500 has rendered a good service in providing such treatment as is always necessary amongst children to prevent the loss of their teeth and preserve them from decay. The eyes of many, too, whose sight was impaired have received such attention as to spare them much suffering and to enable them to perform their duties successfully and with comfort. There is such constant need of attention to children in these matters, and the benefits derived are so essential to their future well-being, that the fund ought to be made a permanent one.

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The carriage and tool house, for which an appropriation of \$500 was granted, is now in process of construction. While it will not be in all respects such as was desired, yet by erecting it with our own labor we shall with this small amount be able to provide such a building as will answer the purposes.

There have been many other minor improvements in the grading, sodding, and tiling of the grounds. The cottages also have nearly all been repainted and their windows screened, and this has been entirely done with the help of our boys, as well as the complete covering of the steam pipes. In making such improvements it has been the aim, so far as possible, to utilize the labor of the children in the Home, and they have been employed wherever they could be to any advantage.

The electric plant has been completed and furnishes to the Home a most excellent means of lighting. It enables us also to so far dispense with the use of oil lamps that we feel that the safety of the children and security of the buildings are much better provided for.

NEEDS OF THE HOME.

[For schedule of needs of the home, see trustees' report.]

FOR ADDITIONAL LAND, \$6,000.

In the Home with 500 children there is a large number of boys capable of performing considerable farm work, and had we the land to till it would not only afford an occupation which would train the boys for the very pursuit that most of them will follow, but it would add considerably to the revenue of the Home and to the support of the children it has to maintain. Fifty cows, to furnish milk for the family we have, would be none too many, and no product of the farm could be more profitable where there are so many small children who would thrive best on this kind of diet. But to keep such a herd of cows, fifty or sixty acres more of land is necessary, and I sincerely hope it may be procured.

FOR ENLARGING COTTAGES, \$11,000.

There are yet upon the girls' side seven one-story cottages of the original size and plan. These cottages have proved very inadequate for the number that have to be cared for in them. There was a real necessity for their enlargement two years ago when an appropriation was asked to make this improvement in all the cottages. This necessity is still more urgent to-day on account of the increased number of girls that had to be crowded into them, there being in some of these cottages thirty-three where twenty-four only could be provided for. The full amount asked for is needed for this purpose and the granting of less would result only in some of the cottages remaining as they are.

FOR STEAM HEATING IN ENLARGED COTTAGES, \$700.

The enlargement of these cottages would make necessary an increase in the capacity of the steam heating apparatus in them, and \$100 for each cottage, or \$700 in all, will be required to make this improvement.

FOR COTTAGE FURNITURE, \$1,500.

Nearly doubling the amount of room by putting another story on these cottages would of itself require an additional supply of furniture for them,

but on account of the worn out and dilapidated condition of the beds, carpets, and other furniture now in them there is a further necessity of asking for an appropriation of \$1,500 to properly equip them and make them comfortable and convenient for the children who have to occupy them.

FOR GENERAL FURNITURE, \$1,500.

The wear and tear of furniture in cottages and other buildings is considerable and constant, and hence the necessity of regularly asking and providing for this contingency. Past legislatures have recognized this fact, and appropriations have always been made for this purpose. Fifteen hundred dollars is the amount that, in my opinion, is needed, and this is small (being only about \$2.70 per capita) when the fact that it covers bedding, crockery, and all other furniture is taken into consideration.

FOR CONTINGENT AND REPAIRS, \$5,000.

The difficulty of calculating accurately the needs of a private family, for any considerable length of time, is familiar to every person who has to provide for one. This difficulty is very much increased as a family grows to number up into the hundreds, and hence the necessity and custom in all public institutions of providing a contingent fund. Then, too, the natural wear and decay about buildings and premises is such as to create a necessary and regular item of expense. Emergencies must be met and repairs should be kept up in order to prevent wasteful destruction of property. I am sincere in the belief that \$5,000 during the next two years would be well invested, upon the property of the state in the Home here, in making necessary repairs and in providing for contingencies that are sure to arise.

LIBRARY, \$1,000.

It has been customary for many years for the legislature of the state to appropriate about \$150 per year to our library. Amongst 550 persons in the Home, most of whom are readers, this is a small allowance. It is quite necessary that the children shall be supplied regularly with some current and periodical literature. After furnishing this but a small amount remains to be devoted to the purchase of books. It is a fact that the money granted for this purpose has been barely sufficient to rebind books that were worth it, and to replace those that were worn out. As a consequence our library does not increase perceptibly. Twenty years ago, when the number of children in the Home was about one-half what it is now, there existed a library of 1,300 volumes. To-day there are only 1,500, and with the amount usually appropriated it is impossible to add anything to its growth. In the training of the great number of children we have to habits of reading and study, the value of a good library can not be overestimated, and I urge upon the board and others in authority the necessity of more ample means to provide books for our library. I am sure \$1,000 can be well used for this purpose.

FOR CEMENT WALKS, \$800.

During the last two years several thousand feet of cement walk have been put down upon the grounds to replace old, worn out wooden walk. There is much more that is rapidly going to decay and will soon have to be renewed. The replacing of wooden walks with cement I believe to be good economy for the state, and I regard \$800 as the amount necessary to make these changes.

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• BOYS' INDUSTRIAL BUILDING, \$5,000.

Money has already been appropriated and expended in the construction of a girls' industrial building. In this are a tailor shop, a dressmaking department, and cooking school; and here the girls are taught in these industries, and it amply serves its purpose. It is conceded by the authorities and by people who visit the Home to afford the girls their most valuable training here, in many respects. The only place in which the boys have any facilities for receiving any mechanical instruction is in the basement of this building, in very cramped quarters. There are 100 more boys in the Home than girls, and their need for a commodious building in which to receive their industrial training is more than correspondingly greater. While we are doing the best we can for them in the narrow quarters in which they are located, yet I feel that we are not accomplishing for our boys what ought to be done. They need a separate building where they will have sufficient room to carry on several occupations. Under such circumstances they would be prompted to better and more willing efforts and accomplish much better results. I regard this as one of our great needs.

FOR ERECTING A CHAPEL, \$6,250.

One year ago the Home came into possession of a bequest amounting to \$3,750, made to it by the will of Baxter Whiting, of Onawa. It is desired to use this fund to construct a building that will answer the purpose of an amusement hall, chapel, and gymnasium, and furnish additional school-room, which is much needed. The bequest is not, of course, sufficient to complete such a building, and an appropriation of \$6,250 is urged for this purpose.

Our present and only place for general assembly of the children is in their dining hall around the tables, set for the next meal. Some place where the children can come together for their entertainments, and for such religious and moral instruction as is given them, should certainly be provided. If a church or chapel is a good thing for any class of people, it is most surely for the children in the Home. If any good is to be derived from such training, the hope of it lies almost entirely in the youth of the land, and certainly we have a class of children here that are in no less need of it than elsewhere. I regard a building of this kind as one of our most urgent needs and I entertain the hope that it will be so appreciated by all interested in the welfare of the children here.

CHAPLAINCY FUND, \$500.

The reform schools, the prisons, the insane asylums, and most of the institutions of the state have their chapels and chaplains regularly provided for. If this kind of instruction is profitable for the classes found in these institutions, it seems to me doubly so for the children in the Home who are in full possession of their faculties and susceptible and willingly inclined to good influences. A religious service is held regularly every Sunday afternoon in our dining hall, and the ministers and others in the city have responded promptly to calls that have been made upon them for their assistance. They have rendered this service cheerfully and without compensation. These exercises are esteemed of such value that they are expected and required of us, and they ought to be so appreciated that

they might be paid for. Ministers, as well as other laborers, are worthy of their hire, and the state should not expect from them any more than from others, a gratuitous service.

FOR SEWERAGE, \$5,000.

At the present time the sewage from the Home is discharged into Duck creek immediately back of the institution. Along this creek for a stretch of five or six miles are a great number of dairy farms from which milk is furnished to the city. The city board of health has protested against the impure quality of such milk, and the dairymen in turn have filed strong objections to the pollution of the water in the creek by the sewage discharged into it from Mercy hospital and this Home. In consequence the Home has been directed to discontinue the use of the creek for this purpose, but not until a lapse of ten months from July 1, 1897, in order that there might be ample time to complete some other plan for the discharge of our sewage. It is an absolute necessity, therefore, that means be provided to take care of the sewage of the Home. The most feasible plan that appears at present is to carry a line of sewer down the railroad track and discharge into the Mississippi river. The distance is something over a mile, and while the cost of construction is not now accurately determined, I am of the opinion that the amount named will be needed.

FOR NEW BOILERS, \$2,000.

Our means for making steam for heating consists of three forty-inch boilers twelve feet long. They have been in use many years, and besides being much worn they are not of sufficient capacity. Since extending our steam plant to include all the buildings, every boiler is taxed to its utmost capacity to furnish the steam necessary. In every plant of this kind, upon which so many helpless ones are dependent for their comfort and safety, there ought always to be one boiler in reserve to provide for any emergency. As it is now, with every boiler in use during cold weather, in case of accident to any one of them we would be seriously crippled, and there are times when none of them can be dispensed with for the purpose of giving them the necessary cleaning. For the welfare of the children and to provide against possible danger and suffering, the old boilers should be replaced with new ones of greater capacity.

FOR WATER TANK, \$1,500.

While a tank is not an absolute necessity, it is a wise precaution against great strain and wear upon the plumbing and the water service generally, and prevents a considerable waste of water occasioned by undue pressure upon bibs and valves. Then, too, in case of accident or breaks in water pipes, as occasionally happens, the water supply is not cut off. I believe the amount required for the erection of a tank a good investment.

FOR RAILROAD SPUR, \$1,500.

At present all the coal consumed in the Home is taken from cars shunted on to the side track at Oakton, a point nearly half a mile away. From eighty to one hundred cars are used annually, and the present mode of bringing the coal into our bins necessitates the hauling of it twice. There are times, too, when the roads are in such condition that it is impossible

to haul with teams. A spur from the Milwaukee and St. Paul road about six hundred feet in length can be constructed so as to bring the cars directly to our bins and the coal placed in them with only one handling and with much less inconvenience than it is now done. I believe the saving of time and labor by this arrangement would be a good interest on the investment necessary for the construction of such a spur.

ATTENDANCE.

Movement of Population, Biennial Period ending June 30, 1897.

PRESENT JULY 1, 1895.

County children.....	210
Soldiers' children.....	248
Total.....	458
Male.....	271
Female.....	187
Total.....	458

NUMBER ADMITTED DURING BIENNIAL PERIOD.

County children.....	84
Soldiers' children.....	177
Total	261
Male.....	149
Female.....	112
Total.....	261

NUMBER DISMISSED DURING BIENNIAL PERIOD.

County children.....	103
Soldiers' children.....	126
Total	229
Male.....	129
Female.....	100
Total.....	229

DIED DURING BIENNIAL PERIOD.

County children.....	1
Soldiers' children.....	2
Total.....	3
Male.....	3
Total.....	3

AVERAGE MONTHLY ATTENDANCE.

County children.....	199
Soldiers' children.....	280
Total.....	479

NUMBER PRESENT JUNE 30, 1897.

County children.....	190
Soldiers' children.....	297
Total....	487
Male.....	288
Female.....	199
Total.....	487

The number dismissed from the Home each year has been 24 per cent. of the average attendance, so that the average length of time that children remain in the home is a trifle over four years.

AGES OF CHILDREN IN THE HOME, JULY 1, 1897.

Number of children 2 years of age.....	4
Number of children 3 years of age.....	11
Number of children 4 years of age.....	4
Number of children 5 years of age.....	13
Number of children 6 years of age.....	31
Number of children 7 years of age.....	26
Number of children 8 years of age.....	28
Number of children 9 years of age.....	53
Number of children 10 years of age.....	36
Number of children 11 years of age.....	35
Number of children 12 years of age.....	59
Number of children 13 years of age.....	53
Number of children 14 years of age.....	53
Number of children 15 years of age.....	42
Number of children 16 years of age.....	2
Total	467
Average age.....	10.68

The above table shows the number of children in the Home of different ages from 2 to 16 years of age. This is computed at the close of the biennial period and will not vary much for the two years. The average of all the children at this date is 10.68 years.

DISMISSED DURING THE PERIOD.

Number of children dismissed before reaching age limit.....	184
Number of children dismissed on reaching age limit.....	43
Number of children who died.....	3
Total	232

It will be seen that only 19 per cent of the children are kept in the Home until they reach the limit, and this is unavoidably a larger ratio than it would be, from the fact that a considerable number of our children are admitted barely a year before it is necessary to dismiss them on account of their age.

Of the 232 dismissed not a single child has been sent out who was not provided with a home. While many of these homes have been amongst strangers carefully selected by the institution officers, a large number of them are in homes procured with their friends, where, all other things being equal, it is better they should be located. Unfortunately, however, children are frequently released to friends or relatives who have a claim upon them which they ought not to possess for the reason they are unfit or unprepared properly to care for them when they get them. In such cases the purposes of the Home and the good of the children would be much better served if the board of control were empowered with legal authority to place such children in homes they might select, and it is hoped that legislation may soon be enacted granting such authority.

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REPRESENTATION BY COUNTIES.

COUNTY.	County children.	Soldiers' children.	COUNTY.	County children.	Soldiers' children.
Adair.....	1	.....	Jones.....	3	1
Audubon.....	2	.....	Keokuk.....	1	2
Benton.....	.....	7	Kossuth.....	.....	1
Black Hawk.....	2	.....	Lee.....	1	2
Boone.....	1	10	Linn.....	.....	18
Bremer.....	.....	5	Louisa.....	1	7
Buchanan.....	2	1	Madison.....	16	2
Buena Vista.....	.....	5	Mahaska.....	19	14
Butler.....	1	4	Marion.....	3	1
Carroll.....	2	1	Marshall.....	3	21
Cass.....	1	.....	Mitchell.....	.....	11
Cedar.....	.....	6	Monona.....	.....	3
Cerro Gordo.....	2	.....	Muscatine.....	11	10
Cherokee.....	.....	3	O'Brien.....	2	1
Chickasaw.....	.....	3	Palo Alto.....	.....	8
Clarke.....	.....	2	Pocahontas.....	1	4
Clayton.....	3	1	Polk.....	20	28
Clinton.....	1	12	Pottawattamie.....	5	5
Decatur.....	.....	3	Ringgold.....	.....	2
Des Moines.....	.....	4	Sac.....	.....	4
Dubuque.....	2	19	Scott.....	21	8
Fayette.....	2	11	Shelby.....	6	2
Fremont.....	.....	2	Sioux.....	.....	1
Greene.....	.....	1	Story.....	2	.....
Hardin.....	.....	6	Tama.....	4	1
Henry.....	1	.....	Van Buren.....	.....	3
Howard.....	3	.....	Wapello.....	.....	6
Humboldt.....	.....	3	Wayne.....	2	2
Ida.....	1	.....	Woodbury.....	5	12
Iowa.....	5	1	Worth.....	1	.....
Jackson.....	7	4			
Jasper.....	2	7			
Johnson.....	4	1			
			Total.....	190	297

According to the present enrollment sixty-four counties are represented in the Home, either by soldiers' orphans or by those sent here as wards of the counties. Of the entire number in the Home, a little over 40 per cent are county children, and about half of this number are furnished by four counties. There are some counties who care for their dependent children almost wholly by placing them in the Home, and an evidence that they regard this the best way to provide for them is the fact that these counties have longest and most extensively continued this practice. Others place their poor children in the county poor house for the reason, as asserted in some instances at least, that they can be more cheaply cared for there, with little evident regard for the kind of training they get or the character of their surroundings. In many instances children are sent to the reform school from 7 to 12 years of age for no other reason than that they are vagrant, disorderly or incorrigible, when in my opinion children of such tender years, and with such faults (not crimes) should be cared for in some place where they could not be contaminated by crime or a taint of crime attach to their names. Such children, when committed to that institution, become wards of the state and are maintained at the state's expense. During the two years preceding the last biennial period, thirteen counties that maintained no children in the Home sent seventy-eight to the boys' reform school, while six counties that sent no children to that school sent thirty-six to the Home; and six counties that cared for seventy-eight homeless children here committed only twenty-two to the reform school. While these figures are not

sufficient to warrant a definite conclusion, they are of a character to create a suspicion that some of the counties of the state are taking advantage of the law that permits them to send disorderly and vagrant children, even as young as 7 years, to the reform schools, and thus secure their support and control at state expense. It is not upon this ground, however, if the practice exists, that it can be most severely criticized. The sending of children under 12 years of age, innocent of crime and almost incapable of it, and only because they are poor and homeless, and hence vagrant, to be trained and brought up in a semi-penal institution with those who are guilty of criminal acts, casts upon their lives a shadow of guilt that they never can outlive, and a taint of crime ever attaches to them entirely undeserved. It is an injustice to innocent youth of which the state ought to be free.

COMPARATIVE STATEMENT.

Number of children present June 30, 1899.....	370
Admitted during thirteenth biennial period, 1889-91.....	280
Admitted during fourteenth biennial period, 1891-3.....	230
Admitted during fifteenth biennial period, 1893-5.....	234
Admitted during sixteenth biennial period, 1895-7.....	261
Total.....	985
Dismissed during thirteenth biennial period, 1889-91.....	210
Dismissed during fourteenth biennial period, 1891-3.....	209
Dismissed during fifteenth biennial period, 1893-5.....	189
Dismissed during sixteenth biennial period, 1895-7.....	239
Total.....	837
Died during thirteenth biennial period, 1889-91.....	20
Died during fourteenth biennial period, 1891-3.....	8
Died during fifteenth biennial period, 1893-5.....	..
Died during sixteenth biennial period, 1895-7.....	3
Total.....	31
Increase in attendance during past eight years.....	117
Number present June 30, 1897.....	457

INVENTORY OF PROPERTY.

JUNE 30, 1897.

61½ acres of land, \$250	\$ 15,375 00
11 two-story cottages and furniture, \$1,000.....	44,000 00
7 one-story cottages and furniture, \$2,500	17,500 00
1 hospital and furniture	6,000 00
1 administration building and furniture.....	47,000 00
1 school building and furniture.....	10,300 00
1 laundry and engine house and furniture	9,000 00
1 industrial building and furniture.....	5,000 00
1 barn and fixtures.....	4,000 00
1 ice house.....	1,000 00
1 coal house	1,000 00
Electric light plant	4,500 00
Steam plant.....	11,500 00
Hot and cold water plant.....	8,500 00
Sundry outbuildings	2,500 00
5 horses	500 00
29 cows, \$30.....	1,015 00
63 hogs, \$10	630 00
Carriages, wagons and implements	975 00
Groceries and provisions on hand	2,557 00
Dry goods and clothing.....	5,788 22
Total.....	\$196,570 22

PRODUCE RAISED ON FARM, SEASON OF 1895.

ARTICLES RAISED.		Value.	Total value.
525	bushels potatoes.....	\$.38	\$ 105.00
39	bushels onions.....	.40	15.60
190½	bushels turnips .....	.23	45.12
286½	bushels table beets.....	.25	71.63
162	bushels tomatoes.....	.50	81.00
57½	bushels cucumbers.....	.46	26.88
32	bushels pickles.....	.50	16.00
196	bushels green sweet corn.....	.50	98.00
45½	bushels string beans.....	1.40	63.70
14	bushels green peas.....	1.20	16.80
172½	bushels radishes .....	.80	138.00
31	bushels pie plant. ....	.90	27.90
113	bushels lettuce.....	.40	45.20
1,648	heads cabbage.....	.04	65.92
99	dozen squash.....	.50	49.50
902	dozen green onions .....	.10	90.20
160	quarts gooseberries.....	.12½	20.00
80	quarts currants.....	.15	12.00
51	quarts raspberries.....	.10	5.10
5	tons oats straw.....	6.00	30.00
8	tons millet hay.....	8.00	64.00
2	tons wild hay.....	7.00	14.00
7	acres corn fodder.....	3.00	21.00
Total			\$ 1,121.55

PRODUCE RAISED ON FARM, SEASON OF 1896.

ARTICLES RAISED.		Value.	Total value.
640	bushels potatoes	\$.15	\$ 96.00
128	bushels green sweet corn.....	.50	64.00
170	bushels field corn.....	.20	34.00
162	bushels tomatoes .....	.50	81.00
87½	bushels table beets.....	.25	21.88
800	bushels cow beets.....	.15	120.00
405½	bushels turnips.....	.20	81.10
55½	bushels string beans.....	1.40	77.70
80	bushels onions.....	.40	32.00
41	bushels peas.....	1.00	41.00
112	bushels lettuce.....	.40	44.80
109	bushels radishes .....	.80	87.20
2	bushels pie plant.....	.90	1.80
23	bushels grapes	1.00	23.00
680	quarts blackberries.....	.06	40.80
61	dozen pumpkins .....	.50	30.00
10	dozen squash.....	.60	6.00
699	dozen green onions.....	.07	48.93
1,881	heads cabbage.....	.05	94.20
12	tons wild hay.....	6.00	72.00
47	bushels cucumbers.....	.50	23.50
Total.....			\$ 1,120.91

CLOTHING MADE DURING BIENNIAL PERIOD.

JULY 1, 1895 TO JULY 1, 1897.

Coats	795	Bibs	1,182
Pants.....	1,039	Handkerchiefs.	1,600
Vests	370	Sheets.....	681
Shirts.....	412	Pillow cases.....	1,025
Dresses	928	Bed ticks	176
Skirts.....	665	Pillow cases.....	120
Aprons.....	1,652	Wash cloths.....	589
Walsts	1,132	Towels.....	747
Capes.....	196	Table cloths.....	215
Night gowns	471	Napkins	557
Drawers.. ..	753		
Sun bonnets.....	84		
Detail aprons.....	250		
		Total.....	15,589

CLASSIFIED EXPENDITURE FOR BIENNIAL PERIOD.

JULY 1, 1895, TO JULY 1, 1897.

For remodeling cottages	\$ 9,112.96
For industrial building and equipment....	4,829.42
For completing steam plant.....	2,756.49
For completing electric light plant	1,262.05
For bath tubs and plumbing for same.....	159.97
For cement walks	500.00
For insurance	624.65
For ice house.....	750.00
For ice	205.00
For oculist and dental work.....	199.75
For meat and fish.....	6,755.32
For breadstuffs.....	3,683.11
For fruit and vegetables.....	6,496.45
For coffee and tea.....	882.10
For sugar and syrup.....	3,824.65
For sundry groceries	1,495.74
For butter	4,547.65
For cheese and eggs	1,357.36
For soap.....	1,739.26
For mortuary expenses.....	49.50
For medicinal supplies.....	997.06
For dry goods and clothing	14,793.99
For postage and stationery.....	702.86
For library and diversions....	601.98
For furniture and furnishings.....	5,306.83
For hardware and queensware.....	1,727.54
For repairs.....	3,399.82
For contingencies.....	4,633.77
For rent of land, plants and seeds.....	884.04
For land purchased.....	800.00
For lights and oil.....	259.14
For fuel	6,653.69
For salaries and wages	26,239.94
For school supplies.....	1,156.56
For tools and implements.....	418.05
For livestock and feed.....	3,043.11
For water rates....	962.12
Total.....	\$134,705.30

CASH STATEMENT.

JULY 1, 1895 TO JULY 1, 1897.

Support fund, balance July 1, 1895	\$ 2,240.66
Industrial building fund, balance July 1, 1895.....	1,160.00
Completing steam plant fund, balance July 1, 1895.....	.40
Water rates fund, balance July 1, 1895.....	81.16
	<hr/>
	\$ 3,482.22

CASH RECEIVED FROM TREASURER DURING BIENNIAL PERIOD.

Support fund	\$106,779.18
Bath tubs and plumbing fund.....	159.97
Water rates fund	930.25
Baxter Whiting fund.....	3,714.28
Dental and oculist fund	199.75
Repair and contingent fund.....	3,586.50
Cottage furniture fund	750.00
General furniture fund	625.00
Ice house fund.....	750.00
Remodeling cottages fund.....	6,875.00
Cement walks fund.....	500.00

Industrial building fund	\$ 2,625.00	
Completing steam plant fund.....	2,749.21	
Electric light plant fund.	1,262.05	
Additional land fund.....	800.00	
Library fund.....	360.10	
Amusement fund (cash donation).....	27.50	
		\$132,693.89
Livestock and sundries sold during biennial period.....	\$ 967.23	
Income from cabinet shop during biennial period	250.00	
Income from shoe shop during biennial period.....	48.45	
		\$ 1,285.68
Total receipts.....		\$137,441.79

CASH DISBURSEMENTS DURING BIENNIAL PERIOD.

Support fund	\$108,663.44	
Additional land fund	800.00	
Water rates fund.....	928.78	
Baxter Whiting fund	2,800.00	
Dental and oculist fund.....	199.75	
Repair and contingent fund ...	3,586.50	
Cottage furniture fund.....	750.00	
General furniture fund.	625.00	
Remodeling cottages fund.....	6,875.00	
Electric light plant fund.....	1,262.05	
Completing steam plant fund.....	2,749.61	
Ice house fund	750.00	
Bath tubs and plumbing fund	159.97	
Cement walks fund	500.00	
Industrial building fund.....	3,785.00	
Library fund.....	360.10	
		\$134,795 20

BALANCE ON HAND JULY 1, 1897.

Support fund, balance.....	\$1,622.08	
Baxter Whiting fund, balance.....	914.28	
Water rates fund, balance	82.73	
Amusement fund, balance	27 50	
		\$ 2,646.59
Total		\$137,441 79

MONTHLY PAY-ROLL.

1 superintendent	\$ 100.00
1 assistant superintendent.....	50 00
1 matron	50.00
1 assistant matron	25.00
1 physician	33 33
1 nurse	22.00
19 cottage matrons (\$22).....	418.00
1 school teacher.....	30.00
8 school teachers (\$25).....	200.00
1 music teacher.....	25.00
1 sewing room manager.....	25.00
1 seamstress.....	18.00
4 seamstresses (\$15).....	60 00
1 kitchen manager.....	22.00
1 cook	20 00
1 cook	12.00
2 dining hall managers (\$15)	30 00
1 cooking school teacher.....	20.00
1 laundry manager	22.00

1 laundress.....	\$ 15.00
1 laundress.....	15.00
1 shop foreman.....	45.00
1 carpenter.....	40.00
2 engineers (\$40).....	80.00
1 baker.....	35.00
1 shoemaker.....	28.00
1 farmer.....	23.00
1 teamster.....	20.00
1 watchman.....	25.00
2 general assistants (\$25).....	50.00
Total	\$1,573.23
Average salary, \$25.87 per month.	

In closing this report, it is gratifying to me to call your attention to the improved, contented, and happy state of feeling which prevails among the children in the Home. I desire also to acknowledge the uniform courtesy that has been extended to me by the subordinate officers and employees, and the general spirit of co-operation with which I feel that my efforts have been sustained in directing the affairs of the institution.

The existence of this same spirit between all employees is essential to the highest success of any institution work, and I am pleased to note a growing tendency towards this desired kind of feeling.

I wish to express my most sincere thanks to the board for the manner in which I have been assisted by their efforts in carrying on the work of the Home. Nothing has, to my knowledge, arisen during the two years to disturb in the least the harmony and good feeling that has existed, or to occasion any conflict of authority. This, indeed, has been very gratifying to me, as, I am sure, it has been to all concerned in the welfare of the Home, and has tended not only to lighten the burdens of those who administer its affairs, but contributed very materially to the successful work that has been accomplished.

Entertaining the hope that the same good will that has characterized our work together during the past two years may still continue, and that I may at all times prove myself worthy of your confidence and support, and with the further hope that God's blessing may be upon us in the future in no less degree than in the past, this report is most respectfully submitted.

M. T. GASS,
Superintendent.

PHYSICIAN'S REPORT.

To the Trustees of the Soldiers' Orphans' Home and Home for Indigent Children:

I herewith respectfully submit my report for the two years ending June 30, 1897.

There has been no serious epidemic in the Home during this period, and although the average number of children present has exceeded previous averages by nearly eighty there have been but few very serious cases of sickness. □

There have been 304 cases in the hospital, and 314 were prescribed for or treated in the dispensary and in the cottages, with but three deaths, one from tuberculosis, one from rheumatic endocarditis, and one from meningitis.

Two of these children who died were ill when admitted to the Home and were in the hospital almost constantly from the date of their admittance, and while the Home has done much in caring for these incurables it does not seem right that such cases, and more particularly tuberculous children, should be admitted.

There have been nine cases of diphtheria and one of diphtheritic croup, all of which were treated with antitoxin and all recovered.

There have been five cases of tuberculosis, one being fatal and the others discharged improved.

There were twenty-one cases of "la grippe," with three cases of pneumonia as a consequence, all of which recovered. During the fall of 1895 forty children became infected with scalp ringworm, nearly all of whom had suffered with the same disease in the year previous. This disease, with but one exception, was confined to the boys, and in the exceptional case the girl had ringworm when admitted to the home. Our fight with this disease, which has been so troublesome in many asylums, is a matter of considerable scientific interest as well as of great satisfaction to ourselves.

It will be necessary at no distant day either to connect the entire institution with the city sewer system or to establish a surface filtration plant or a crematory. At present the laundry, hospital, and main building discharge their sewage into Duck creek; and this pollution of a running stream along which our own cows as well as the herds of several large dairymen are pastured, and which stream empties into the Mississippi river but a few miles above the point where the city of Davenport obtains its entire water supply, has occasioned serious objections and protests on part of the city authorities.

I would therefore advise your honorable body to take immediate steps to secure some other means of disposing of the institution sewage.

In conclusion permit me to acknowledge my obligations to Superintendent and Mrs. Gass for their invaluable assistance at all times and in all cases, and for their uniform kindness and courtesy under all circumstances, and also to Miss Armstrong for the successful management of the hospital and for her untiring devotion to the duties of her position.

Very respectfully,

WM. L. ALLEN,
Physician to the Home.

Davenport, June 30, 1897.

HOSPITAL REPORT FOR THE TWO YEARS ENDING JUNE 30, 1897.

MEDICAL CASES.

DISEASES.	NO.	DISEASES.	NO.
Amenorrhœa.....	2	Tonsillitis.....	3
Bronchitis.....	3	Varricella.....	1
Croup (catarrhal).....	3	Whooping cough.....	11
Diphtheria.....	9	Worms.....	1
Diphtheritic croup.....	1	Stomatitis.....	5
Diarrhœa.....	1	Earache.....	4
Dysentery.....	13	Neuralgia.....	1
Endo-Carditis.....	1	Keratitis.....	1
Febriculæ.....	14	Myopia.....	1
Fever, typhoid.....	2	Nasal catarrh.....	1
Fever, intermittent.....	5	Pharyngitis.....	1
Influenza (la grippe).....	15	Acne.....	1
Indigestion.....	24	Eczema.....	1
Laryngitis.....	6	Dermatitis.....	1
Mumps.....	1	Scabies.....	1
Erysipelas.....	4	Psoriasis.....	1
Meningitis.....	1	'inea tonsuram.....	1
Obstipation.....	1	Urticaria.....	1
Pleurisy.....	1	Herpes.....	1
Phthisis.....	4		
Rheumatism.....	3	Total.....	56

SURGICAL CASES.

OPERATIONS.	NO.	OPERATIONS.	NO.
Abscess.....	9	Ingrowing nail.....	1
Contusions.....	1	Synovitis.....	1
Fracture, leg.....	1	Hernia, congenital.....	1
Fracture, forearm.....	1	Hernia, direct.....	1
Burn.....	3	Sprain, ankle.....	4
Periostitis.....	1	Sprain, wrist.....	1
Shock (blow over heart).....	1	Frosted feet.....	4
Furuncles.....	1	Frosted hands.....	1
Spider bite.....	1	Glandular enlargements.....	1
Ranulas.....	1	Sebaceous tumor.....	1
Stone bruise.....	1	Ulcers.....	1
Wounds, incised.....	6		
Wounds, lacerated.....	1	Total.....	31
Wounds, punctured.....	3		

TREASURER'S REPORT.

To the Board of Trustees of the Iowa Soldiers' Orphans' Home and Home for Indigent Children:

In accordance with law I herewith submit my biennial report of the receipts and disbursements of the Home from July 1, 1895, to June 30, 1897, inclusive:

J. G. Brown, treasurer, in account with the Soldiers' Orphans' Home.

SUPPORT FUND.

DEBIT.

July 1, 1895, to balance last report	\$ 2,240.66
To warrants from auditor of state on account of soldiers' orphans.....	66,728.67
To warrants from auditor of state on account of county children	40,050.51
To amount from sale of live stock and sundry receipts.....	1,265.68
Total.....	\$110,285.52

CREDIT.

By warrants for supplies.....	\$108,656.72
By balance	1,628.80
Total.....	\$110,285.52

CONTINGENT AND REPAIR FUND.

DEBIT.

To warrants from auditor of state	\$ 3,586.50
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CREDIT.

By warrants	3,586.50
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LIBRARY FUND.

DEBIT.

To warrants from auditor of state....	\$ 360.10
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CREDIT.

By warrants	360.10
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GENERAL FURNITURE FUND.

DEBIT.

To warrants from auditor of state....	\$ 625.00
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CREDIT.

By warrants	625.00
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COMPLETING STEAM HEATING FUND.

DEBIT.

To balance last report.....	\$.40
To warrants from auditor of state	2,749.21
Total	\$ 2,749.61

CREDIT.

By warrants.....	\$ 2,749.61
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WATER RATE FUND.

DEBIT.

To balance last report	\$	81 16
To warrants from auditor of state		930.35
Total	\$	1,011.51

CREDIT.

By warrants.....	\$	928.75
By balance		82.73
Total	\$	1,011.51

REMODELING COTTAGE FUND.

DEBIT.

To warrants from auditor of state.....	\$	6,875.00
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CREDIT.

By warrants.....		6,875.00
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REMODELING COTTAGE FURNITURE FUND.

DEBIT.

To warrants from auditor of state.....	\$	750.00
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CREDIT.

By warrants		750.00
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INDUSTRIAL BUILDING FUND.

DEBIT.

To balance last report	\$	1,100.00
To warrants from auditor of state.....		2,625.00
Total..	\$	3,725.00

CREDIT.

By warrants	\$	3,725.00
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COMPLETING ELECTRIC LIGHT FUND.

DEBIT.

To warrants from auditor of state	\$	1,262.05
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CREDIT.

By warrants		1,262.05
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ADDITIONAL LAND FUND.

DEBIT.

To warrants from state auditor	\$	500.00
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CREDIT.

By warrants.....		500.00
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ICE HOUSE FUND.

DEBIT.

To warrants from auditor of state	\$	750.00
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CREDIT.

By warrants		750.00
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CEMENT WALK FUND.

DEBIT.

To warrants from auditor of state.....	\$	500.00
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CREDIT.

By warrants.....		500.00
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DENTAL AND OCULIST FUND.

DEBIT.

To warrants from state auditor.....	\$	199.75
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CREDIT.

By warrants		199.75
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BATH TUB AND PLUMBING FUND OF 1892.

DEBIT.	
To warrants from auditor of state.....	\$ 159.97
CREDIT.	
By warrants.	159.97

AMUSEMENT FUND.

DEBIT.	
To donations	\$ 27.50

BAXTER WHITING BEQUEST FUND.

DEBIT.	
To cash	\$ 3,714.28
CREDIT.	
By warrants.....	\$ 2,800.00
By balance.....	914.28
Total.....	\$ 3,714.28

FUNDS ON HAND.

Support.....	\$ 1,628 80
Water rate.....	82.73
Amusement.....	27.50
Baxter Whiting	914.28
Total.....	\$ 2,653.31

UNDRAWN APPROPRIATIONS.

Contingent and repair fund.....	\$ 1,356.28
Furniture fund.....	125 00
Library fund.....	150.00
Remodeling cottage fund.	2,000.00
Furniture fund for same.	250 00
Completing steam heating fund	875.00
Industrial building fund.....	375.00
Wagon and tool house fund.....	500.00
Cement walk fund.....	500.00
Ice house fund.....	250.00
Dental and oculist fund.....	300.25
Total.....	\$ 6,181.48

Respectfully submitted,

J. G. BROWN,
Treasurer.

June 30, 1897.

STATE OF IOWA, }
MARSHALL COUNTY, } ss.

I, J. G. Brown, treasurer, being duly sworn, depose and say that the above report is true, as I verily believe.

J. G. BROWN,
Treasurer.

Subscribed and sworn to before me and in my presence by J. G. Brown, treasurer, this 26th day of August, 1897.

[SEAL.]

P. S. BALCH,
Notary Public.

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REPORT
OF THE
COMMISSIONERS
OF THE
IOWA SOLDIERS' HOME
TO THE
Twenty-seventh General Assembly,
INCLUDING THE PERIOD FROM JUNE 30, 1895, TO JULY 1, 1897,
WITH
REPORT OF THE COMMANDANT.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
F. B. CONAWAY, STATE PRINTER.
1897.

REPORT.

To the General Assembly of the State of Iowa:

The Iowa Soldiers' Home enters upon the tenth year of its existence with the largest membership in its history, there being at the close of the biennial period covered by this report, including those away on furlough, 686 members, including those occupying the ten cottages and the woman's dormitory. The growth of the institution, and increase in membership, are shown in the following average number on the rolls each year, ending June 30th, since the Home was opened in 1887:

1888	140
1889	258
1890	349
1891	432
1892	426
1893 (including four women).....	376
1894 (including seven women).....	404
1895 (including twelve women).....	516
1896 (including twenty-one women).....	599
1897 (including thirty-two women).....	636

There are now on file a large number of applications for admission, but on account of the recent action of the board, in establishing the rule that no person shall hereafter be admitted having an income of \$16 per month or more, the limit heretofore being \$24, and as the new hospital is not yet occupied to its full capacity, it has been decided not to ask for any appropriation for additional room for members, except for a dormitory for old people, as noted elsewhere in this report. It is the opinion of the board, however, that when additional room is needed, beyond the "old people's building" referred to, that it will be for additional hospital accommodations, and in view of these considerations deem it proper to await the developments of the next biennial period before deciding to ask for the erection of additional buildings to accommodate single men.

THE HOSPITAL.

Through the generosity and good judgment of the Twenty-sixth General Assembly, the appropriation of \$40,000 for the erection of the new hospital so long and so badly needed, was made, and the appropriation made immediately available, so that the building was completed and occupied January 1, 1897. The plan is essentially modern, and before built had the approval of General Averill, assistant inspector-general of national homes, and of other experts in hospital construction of recognized experience and ability. Before the plans were finally adopted, as well as during the course of construction, some of the commissioners and the surgeon made visits of observation to the hospital at the Illinois Soldiers' Home at Quincy, to the Illinois Insane Hospital at Kankakee, to the hospitals in Chicago, and to several of the hospitals connected with the public institutions of our own state. The hospital building is built facing the south; is 228 feet in length, with a central depth of 110 feet, and wings 25 feet wide. It has two stories above an eight foot basement; is built of pressed brick with cut stone trimmings and foundation. The building is divided into four principal wards, with smaller rooms for patients suffering with contagious diseases, and every one of the 110 beds has a window. The ventilation is believed to be perfect, and the condition of those inmates compelled to occupy it for treatment is incomparably better than when in the old hospital, occupied at the time of our last biennial report. An innovation was made, when the new hospital was opened, in the employment of female nurses, under charge of a woman who is a graduate of one of the best training schools for nurses in the country, and of wide experience since. The other nurses are young women who desire to learn the profession and are willing to serve a term of years for about the wages of an ordinary domestic, in addition to the training that they receive. This, we are informed, is the practice in all hospitals where women are employed as nurses.

Further information regarding the hospital is found in the reports of the commandant and surgeon.

PENSIONS.

In February, 1892, we adopted rules providing that a person having a pension of \$24 per month (since changed to \$16 per month) or more should not be admitted as a member of the Home unless he required hospital treatment or was so incapac-

tated mentally as to be unable to make a proper use of his income; and that "any person admitted to the Home having a pension exceeding \$6 per month shall surrender all of said pension in excess of \$6 per month to the commandant, and if the person so surrendering his pension has dependent relatives the money so surrendered shall be paid to such dependent relatives," otherwise such excess to be placed in the funds of the Home.

In June, 1895, an action was commenced in the district court of Marshall county, asking for a writ of injunction restraining the officers from enforcing these rules. The cause was heard at the October term of court and a decree entered perpetually enjoining the officers of the Home from enforcing the rules except that it permitted them to send a portion of a member's pension to his dependent relatives.

The board appealed from this decision and in October, 1896, the supreme court of the state delivered an opinion reversing the decision of the district court and holding the rules to be equitable and their enforcement within the power of the board. A petition for a rehearing was filed and overruled.

Some time after the opinion of the supreme court was rendered an information was filed in the federal court charging the board with violating the federal statutes in the enforcement of the pension rules. To this a demurrer was filed.

At the May, 1897, term of the United States court the federal grand jury found an indictment against the commissioners, the commandant and the adjutant, in which they were charged with violating the laws of the United States in making and enforcing such pension rules. On the 12th day of June, 1897, a jury was impaneled and many witnesses were examined on behalf of the government. After hearing this evidence the court (Judge Woolson presiding) took the case from the jury and discharged the defendants, no evidence having been offered by the defendants. This litigation has required considerable time, attention and expense on the part of the board and has been a source of much annoyance to the officers of the Home. It has, however, effectually settled the question of the right of institutions of this character to make reasonable rules in relation to the amount of pensions which may be retained by persons accepting their benefits.

We may add that the Homes in many states have similar rules, and that in most instances they are not so liberal to the members as are those of the Iowa Home.

Regulations of this character are approved and indorsed by those most familiar with their practical effect.

OLD PEOPLE'S BUILDING.

A large percentage of the applications for admission to the Home received during the past two years have been from aged veterans who desire to be admitted with their wives, and from all indications this number of applicants will increase in the future. The fourteenth annual convention of the Woman's Relief Corps, department of Iowa, held at Marshalltown, June 10, 1897, passed a resolution asking the legislature to make an appropriation for the erection of an "old people's building" on the grounds of the Soldiers' Home. As stated, we have on file a large number of applications of aged veterans and their wives for accommodations at the Home where they can live together, who, according to the best of our information, are in needy and destitute circumstances, and without any homes, and as there are only ten cottages, and no building suitable for the accommodation of such persons, we ask for an appropriation of \$25,000 for the erection of such a building. We do not deem it advisable to build more cottages, on account of the age and rapidly increasing infirmities of those who would necessarily occupy them; in fact it has already been found necessary to remove some cottage inmates to other quarters in the Home where they could have the care that their helpless condition demanded, and the old hospital, now occupied as a dormitory by the older and more feeble men outside of the hospital, is totally unfitted for the use of inmates with their wives. As it is already the recognized policy of the state, and of the Home, to care for veterans and their wives who desire to live together, we see no other method of carrying out the policy except by the erection of such a building. It might further be stated, that the act passed at the extra session for the government of the Home, changes the requirements for the admission of men and their wives, as to the date of marriage, from 1872 to 1885, which largely increases the number of those eligible to admission.

RESIDENCES FOR COMMANDANT AND SURGEON.

It was deemed advisable by the board to let the contract of erecting the new hospital and the residences for the commandant and surgeon under one general contract, which was done, and the residences were completed and occupied about October

1, 1896. The rooms in the administration building and in the old hospital, where these officers formerly resided, and thus vacated, have been utilized as quarters for members, and also for needed offices for the transaction of the business of the institution.

WATER SUPPLY.

The Home now receives its water supply from the city of Marshalltown, at a rental of \$60 per month. For this rate, there is no contract that cannot be terminated by either party at any time.

We are now advised that the city authorities have recently placed a water meter in the supply pipe, and we infer that the purpose is to hereafter charge meter rates. According to the best information obtainable, this will at least double the cost of our water supply, and we concur in the opinion that an appropriation ought to be made which would enable the board to provide other means for a water supply if in its judgment it should prove to be economy to do so. The land about the buildings is very sandy, and requires an extra amount of water during most of the year. A preliminary examination by an engineer expert in the construction of deep wells, and made without cost, has induced the board to believe that an abundant supply of pure water can be had by boring an artesian well on the Home grounds, and that the cost of the well, standpipe, reservoir; pump, and boiler to operate same, with all steam and water connections complete, would not exceed \$11,500, and that the cost of maintaining such a plant would not be equal to the amount heretofore paid as water rental. Unless such an appropriation is made, it may become necessary to limit the use of water, or pay an amount largely in excess of the probable cost if an independent supply is provided for.

THE LIBRARY.

In the library belonging to the Home are 1,479 volumes. The Home is also furnished with fourteen daily and thirty-six weekly newspapers, many of which have been furnished by the generosity of the publishers. The list of those furnished free is as follows:

American Tribune	Indianapolis, Ind.
Review	Philadelphia, Pa.
Statesman-Press	Marshalltown
Reflector.....	Marshalltown

Daily Constitution	Keokuk
Intelligencer	Ames
Herald	Eldora
Eureka	Anamosa
Clarion	Richland
Gazette	Monona
Republican	Audubon
Eagle	Afton
News	Walker
Journal	Conrad
Journal	Center Point
Journal	Newton
News	LaPorte
Lever	Belle Plaine
Hawkeye	Mt. Vernon
Reporter	Waterloo
Courier	Waterloo
Journal	Lisbon
Republican	Anita
Echo	Little Rock
Representative	Nevada
Recorder	Hampton
Eagle	Vinton
Blade	Pella

Five magazines are also taken. The library room is large, well lighted, with convenient tables, and those members who choose spend much of their time in this room.

THE WOMAN'S BUILDING.

The woman's building now has fifteen occupants, all of whom are widows or mothers of deceased soldiers, with the exception of one, admitted by special act of the legislature. The ages of the inmates range from 62 up to 87 years. Four of the number are 80 years of age or over; six between 70 and 80; and five between 60 and 70; an average age of over 74 years.

THE NORTHWESTERN SOLDIERS' HOME ASSOCIATION.

This is an association of the officials of the Soldiers' Homes of the northwestern states, and meets yearly. Its object is to promote unanimity of action as to rules and requirements governing admissions, pensions and other matters of vital importance, as well as conference as to means of producing best results, and consultation as to best methods of enforcing discipline, etc. This association met in 1895 at Marshalltown, and most of the officials of the Iowa Home were in attendance. In 1896 the association met at Grand Rapids, Mich., and the Iowa

Home was represented by two members of the board. The association met this year at St. Paul, Minn., but unfortunately the date was the same as the regular August meeting of our board, and it was not represented. As one great trouble has heretofore been found in the disposition of ex-soldiers to "tramp" from one home to another, we think that this association should be encouraged by the co-operation of our board, in order that uniform regulations may be adopted on this and other subjects of interest to those upon whom rests the responsibility of the management of soldiers' homes.

In this connection we publish herewith the resolutions adopted at the St. Paul meeting above referred to, and state that in our lately adopted rules and regulations we have endeavored, as far as practicable, to conform to the principal requirements therein contained. The resolutions referred to are as follows:

1. Resolved that applications for admission to homes should be in the form of a contract.

2. That no discharged member should be admitted to any home other than the one discharged from until after the expiration of six months from the date of his discharge, and that no one should be admitted who has a dishonorable discharge without the vote of the board of managers at a regular meeting.

- 3 That in case of discharge by reason of nonpayment of rebate of pensions no soldier should be readmitted until such rebate is paid. If such rebate is due other homes the same should be collected and remitted to such home.

4. Power should be given commandants to summarily discharge inmates only for the most serious offenses, such offenses to be prescribed by the board of managers.

5. In the matter of detail work there should be no exemptions, except on surgeon's certificate, or by reason of permanent detail which includes all men under pay. We respectfully urge all boards and commandants to require at least twelve hours' work per week by each member not herein exempt, when practicable.

6. No member of a home should be discharged, except at his own request, for any cause other than nonpayment of rebate, or for causes which would subject him to imprisonment in our state prisons, or for other offenses prescribed by the board of managers. Such other offenses so prescribed by boards should be in all cases furnished to other homes for their information.

7. When a member is discharged for cause, a record of the same should be immediately furnished other homes, stating cause in detail, and if for nonpayment of rebate, the amount due should be stated in such notice.

8. As to incorrigibles, we recommend that separate quarters be provided, both for sleeping and eating, until such members have shown a willingness to obey the rules. Such quarters should not be a guardhouse,

nor is it necessary that the food be bread and water, but it should be separate and distinct in both cases.

EXPLANATORY.

In relation to the report of J. R. Ratekin, commandant for the biennial period ending June 30, 1897, and herewith appended, we deem it proper to omit the portions relating to a previous period, as also those devoted to matters clearly within the special province of the board or of other officials of the Home.

With regard to that portion of the commandant's report relating to cost of "subsistence" during the years covered, it should be stated that in giving the cost of subsistence per man, for the years ending June 30, 1896, and June 30, 1897, the basis of computation previously used was radically changed by the omission of all cost of utensils for the kitchen, dishes for the dining-room, and cost of cooking and serving the food. All these items are required by the laws of the general government authorizing the payment of \$100 per year, to each inmate, to be included in cost of subsistence, and have been so included up to the first date mentioned.*

MISCELLANEOUS.

It has been the policy of the management of the Home to furnish its members with an abundance of good wholesome food and all necessary clothing, and with the very best hospital care and treatment.

In some institutions of this character, some articles of food, such as butter, sugar and milk, are furnished to each member in limited quantities—the amount of butter allotted to each being placed at his plate, and the coffee sweetened before being served. In the Iowa Home, sugar, butter, meats, milk, and other articles of food are placed in quantities upon the table, and each member is permitted to help himself to such food and in such quantities as he may desire.

We have not felt it to be the policy of the state that these men, whose broken health and wounded bodies attest their fidelity to their country in its hour of danger, should, by rule, be limited to a definite quantity of milk, butter, meats, sugar, or other articles of food; nor that they should be provided only with the lower grades of provisions, and the meats, flour, sugar,

*NOTE BY THE SECRETARY—Including these omitted items for 1896 and 1897, makes the true and correct cost per man, per day, 16.43 cents for 1896, and 16.34 cents for 1897. In this manner his report is made to show a saving or reduction, during these two years, of \$12,935, which does not exist.

tea, coffee, and other articles of food are all of very good quality; as good or better than those used by the average of our people in their homes.

The following figures, showing quantity and cost of the four items of butter, eggs, milk and sugar consumed at the Home during the year ending June 30, 1897, will give an adequate idea of the policy of the management as to the extent to which such articles have been supplied:

Butter, 22,956 pounds, cost.....	\$ 3,045.69
Eggs, 10,064 dozen, cost.....	1,047.59
Sugar, 39,100 pounds, cost.....	1 928 22
Milk, 269,335 pounds, cost.....	3,635.99

Being an expense of \$9,657.49, for the four articles. This sum, divided by the average number present during the year—501, makes the cost for each inmate, of these articles \$19.27, or about 5½ cents per day, or about one-third of the entire cost of subsistence per capita.

A less expensive policy can be pursued, but it is the judgment of the board that it would result in a feeling by the members that they were not justly used, and in a feeling of discontent and unrest that would deprive the Home of much of its present peace, harmony, and good order.

The only supplies purchased by contract are coal, meat, milk, and clothing. For these articles, contracts are let in . one of each year, for the succeeding fiscal year, by the board, advertisement being made in advance. The other supplies are purchased by the quartermaster upon a requisition approved in every instance by the commandant. This rule applies to all supplies, including medical, so that the commandant has a check upon every department, and can exercise it at any moment he sees fit. This has been the rule during the entire time covered in this biennial report.

We earnestly recommend appropriations as follows:

Additional storage building for roots and vegetables.....	\$ 1,000.00
New ice house.....	1,500.00
Old people's building	25,000.00
Furnishing same	2,500.00
Water works	11,500.00

We attach hereto the reports of the commandant, adjutant, quartermaster, and surgeon.

All of which is respectfully submitted.

A. T. BIRCHARD, *President,*

L. B. RAYMOND, *Secretary,*

J. W. MORTON, *Treasurer,*

S. B. EVANS,

G. L. GODFREY,

J. J. RUSSELL,

Board of Trustees.

Dated December 7, 1897.

REPORT
OF
J. R. RATEKIN, Commandant.

1897.

REPORT.

IOWA SOLDIERS' HOME,
MARSHALLTOWN, Iowa, September 20, 1897. }

To Capt. J. J. Russell, President Board of Commissioners:

DEAR SIR—I have the honor to submit herewith a report of the condition and management of the Iowa Soldiers' Home, for the biennial period ending June 30, 1897.

In order, however, to give the fullest practical presentation of all internal affairs of the Home, I have requested the adjutant, quartermaster and surgeon, to report in detail matters and statistics, all of which are of seeming interest and importance. The report of each is appended hereto.

MEMBERSHIP.

Under the head of membership I would request your attention to the tabulated report attached of the adjutant, which enters into the detail of everything connected with this department.

SUBSISTENCE.

Among the most important things to any home is its food. It has been the policy of the management to make this Home second to no other, but compatible with a generous people, and one of the best (if not the best) state institutions of its kind in the Union, as thousands of old soldiers will attest who have sat around the family board of the Iowa Soldiers' Home during the past two years. I would only be too glad to believe one-half the old soldiers in Iowa sat down to as good a table seven days in the week, throughout the year, as do the members of the Iowa Soldiers' Home. The character of all food supplies is the best that wholesale houses afford or money will buy. The average net cost of the material entering into the rations, per

man, per day, and which is extremely low, may seem startling, but nevertheless is true, even after taking into consideration the above statements on this subject. Articles of subsistence, arranged in alphabetical order, giving quantity of each used, and the aggregate cost of all articles, will be seen in full in the report of Quartermaster Longley.

Below will be seen the average cost per man per day during the past eight years:

1890.....	16.33 cents
1891.....	16.66 cents
1892.....	14.09 cents
1893.....	19.18 cents
1894.....	18.91 cents
1895.....	17.76 cents
1896.....	13.66 cents
1897.....	13.4 cents

From careful calculation it is estimated that during the past two years 25,000 meals have been gratuitously furnished old soldiers and others, including employes, not members of the Home.

CLOTHING.

The clothing that has been furnished the members during the past biennial period has, as in previous years, been the same in quality, excepting underwear and shoes, which are of a quality far superior. The aim has been to supply the men with the best that comes within the purchasing power of the money expended, and, although the clothing is not as fine in quality as could be secured by a greater expense, still it is very serviceable and neat. There is a rule limiting the amount of clothing that each man may draw, but many of the members draw far less than the rule allows them and still remain more neatly dressed than many of their comrades who draw to the limit. The total issues of clothing and aggregate cost are set forth in the adjutant's report. The average per capita cost for the past six years is as follows:

1892.....	\$14.09
1893.....	18.35
1894.....	18.91
1895.....	16.94
1896.....	13.75
1897.....	13.27

EXPENSE OF MAINTENANCE AND ACCOUNTABILITY.

The total cost of maintenance during the existence of the Home, on a per capita basis, will be seen by the following table. By total maintenance is meant the entire cost of conducting the Home, including food, clothing, heating, lighting, medicine and medical attendance, officers' salaries, and all ordinary repairs and minor improvements:

June 30, 1889, to June 30, 1890.....	\$141 79
June 30, 1890, to June 30, 1891.....	141.79
June 30, 1891, to June 30, 1892.....	148 15
June 30, 1892, to June 30, 1892.....	144.79
June 30, 1893, to June 30, 1894.....	143.83
June 30, 1894, to June 30, 1895.....	134.90
June 30, 1895, to June 30, 1896.....	111 92
June 30, 1896, to June 30, 1897.....	113.10

HOSPITAL.

I am pleased to say that our hospital department is in very much better condition at the present time than ever before. The favorable action of the Twenty-sixth General Assembly in making an appropriation of \$40,000 for the erection of a new hospital, which was completed and occupied January 30, 1897, has proven to be of untold benefit and, as recommended in my last biennial report, the hospital has been provided with and placed under the general supervision of an experienced trained nurse, Miss Isabel Jarvis, who is in charge of a corps of four lady assistants and two male nurses. The improvement is incomparable, and no home hospital should be without the aid of lady trained nurses one day.

The dining room is also in charge of waitresses.

The general health of the Home has been remarkably good, considering the average age of the membership, which is sixty-two years. Out of an average of 591 men and twenty-seven women, there has been fifty-nine deaths, including four who have died while out on furloughs. The hospital patients do not fully represent the sick or disabled members of the Home. Very many of them are sent to the hospital on account of old age and in order that they may live in retirement and secure better provisions for their wants, as the culinary department of that building is in the proper hands, so that a special study can be made in preparing diet, especially for the sick and aged.

In the event of a death it is invariably the rule to notify at once the immediate relatives of the deceased, and if it should

be the case that they desire the remains sent them for interment the request is always complied with. If not, the interment occurs in the Home cemetery, which is as beautiful and picturesque a spot as there is on the grounds. The obsequies are held in the chapel, conducted by a pastor of one of the city churches, who is assisted by his choir. Military honors are also indulged in, with martial music to and from the grave and the firing of a salute of three guns by an escort. The best casket that can be purchased for \$35 is secured by contract with local dealers. The funerals are well attended by the comrades, there being generally between 100 and 300 present, although not compulsory.

DISCIPLINE.

It is gratifying to be able to report that the conduct of the men for the past two years has been uniformly good. In comparatively few instances have the rules of the Home been in any respect abused. More than a thousand "good conduct" standing passes, for limited periods, have been granted to the members during this period, and it is creditable to them that in but two cases have the passes been taken up, or the privileges granted been in any way violated. "Whatever the rules may be in any home, the management of an institution of this nature depends very largely upon the tact and adaptability that is displayed, for no stereotyped rules will fit any one case alone, let alone more than that number, from the fact of the extreme varying of the conditions and temperament of its members. The committing of the same offense in one case might be from willfulness, while in another it might be from inherited weakness and in a third from feeble mindedness. For this reason iron-bound rules do not always reach the desired end." The Massachusetts State Soldiers' Home, opened in 1862, and one of the most conservative if not best managed homes in existence, "has no printed rules governing the conduct of the men. Its rules, like the unwritten law, are traditional."

"Experience has taught me to believe that firmness, tempered with kindness, mercy, and charity, is the strongest lever in the management of a soldiers' home and is the greatest weapon in maintaining discipline and contentment that can possibly be brought to bear."

WOMAN'S BUILDING AND COTTAGES.

In these departments there is nothing practically new to report, other than you will find in my previous biennial

report. There are now seventeen members in the dormitory, and the cottages are all filled, besides three old couples domiciled in the old people's building, the old hospital. In fact, if we had fifty more cottages built we would have admissions for their occupancy recorded in less than half that number of days. However, for the sake of the people of advanced age seeking admission thereto, there are many arguments in favor of the dormitory plan, where all necessities may be supplied under one roof, including heat, water, medical treatment in case of sickness, etc. There is certainly a pressing demand for a building of this character, and if the situation could be seen at a glance by the people of Iowa, I am sure it would be their will to erect such a building, and in so doing enable these old couples, who have at best but a few more years in which they can enjoy each other's company, to live together in happiness during that time, and not separate them in their age and infirmities.

VISITS AND VISITORS—MISCELLANEOUS.

It is estimated that some 65,000 people, most of whom were citizens of Iowa, took occasion to visit the Home during the past two years. This large number of visitors was due principally to the large number of state gatherings Marshalltown has entertained during that time, and two of them, the encampments of the Iowa Crocker's Brigade and the Iowa department Grand Army of the Republic, both being of a military nature, made the Home a most pleasant place to visit.

Governor Francis Marion Drake and the military and appropriation committees of the house and senate also made the Home a visit in April, 1896, for the purpose of looking over the wants and needs of the Home, with a view to deciding upon the amounts of appropriation.

Gen. W. W. Averell, U. S. A., assistant national inspector-general of homes for disabled volunteer soldiers, visited the institution for inspection June 13, 1896, and July 5, 1897. Hon. Robert G. Cousins, member of congress from the Fifth district, was a visitor, as were also Gen. Josiah Given, past department commander, and his successor, Capt. A. H. Evans, both of whom visited the Home during the G. A. R. encampment. Hon. Philip M. Crapo, of Burlington, as the chairman of the committee from the Grand Army, visited the Home during May last. Visits are also acknowledged from Capt. Charles Smith, Col. C. L. David-

son, Capt. Phil. Schaller, Capt. J. K. P. Thompson, Capt. Geo. A. Newman, all past department commanders, and Department President Mrs. Georgia Wade McClellan, of the Woman's Relief Corps, Past Department Presidents Mrs. E. Flora Evans, Mrs. Sarah Rothrock, and Mrs. Helen R. Griffith, also Department President Mrs. Aurelia Sherman, of the ladies of the G. A. R. The members of both these adjunctive societies of the Grand Army made visits in a body during the encampment, visiting and inspecting the Home in all its departments.

As will be remembered in my previous report the promise of a fine piano for use in the chapel was noticed, to be presented by the W. R. C. This promise was fulfilled on February 12, 1896, when the department, through its president, Mrs. Helen R. Griffith, dedicated the use of a handsome parlor grand Hallet & Davis piano to the Home. The previous custom of furnishing jellies, preserves, and other delicacies from the local corps throughout the state has been in vogue through the past biennial period. Another feature resulting from the kindness and generosity of the W. R. C. ladies has been in the bringing or sending, about the time of encampment week, of some sixty framed pictures, the greater part of which have already been distributed throughout the respective buildings.

On June 9, 1897, Mrs. Sherman, in behalf of the ladies of the G. A. R., presented the Home with a fine church organ, with appropriate services, and the instrument has been placed where it now stands in the new hospital building. The society has also donated generously toward the supply of delicacies for table use in the dormitory and hospital, besides furnishing a large number of chair cushions to be used in the new hospital.

There have been during the period twelve band concerts given in the park, and fifty-four other entertainments of both literary and musical natures. Seven excursions have also been run to the Home from outside points.

Through the kindness of the railroad companies of the state more than 8,000 half-fare certificates have been issued, enabling the members of the Home to make desired visits to their old homes or to other places where their fancy carries them, at a half-fare rate.

Religious services are held every Sunday afternoon at 3 o'clock by the pastors of the different Marshalltown churches, who alternate in conducting them. In each case the pastor attending is accompanied by his church choir. After the serv-

ice in the chapel the choir visits the hospital, where a brief song service is indulged in. The members of the Railway Young Men's Christian association have the evening services in the chapel in charge, which are held at 8 o'clock in the summer time and at 7 during the winter.

The reading room is supplied with fourteen daily papers, fifty weeklies and five magazines. The library contains 1,479 books, and during the period the members have called for and read 5,211.

The postoffice, run in conjunction with the Home and under the management of Veteran E. L. Lunt, shows business handled during the period: Three mails are received and delivered daily; during the period 46,076 pieces have been received, and 31,445—including letters, postal cards, papers and packages—have been mailed.

In the laundry 399,777 articles of wearing apparel have been laundered.

The products of the grounds, or farm, have supplied the Home with practically all the vegetables consumed excepting potatoes, effecting a large saving, amounting in all to the sum of \$1,687.02.

Respectfully submitted,

JOSEPH R. RATEKIN,

Commandant.

Dated September 20, 1897.

REPORTS
OF THE
Adjutant, Quartermaster and Surgeon.

ADJUTANT'S REPORT.

To Col. J. R. Ratekin, Commandant Iowa Soldiers' Home:

SIR —In conformity with your request, I herewith submit the following statistics from the records and reports of the Iowa Soldiers' Home for the biennial period ending June 30, 1897.

MEMBERSHIP.

YEAR ENDING.	GAIN.			Whole number cared for.	LOSSES.				AGGREGATE			ANNUAL AV'GS.			
	By admis- sion.	By readmis- sion.	Total.		By dis- charge.	By dropped from roll.	By death.	Total.	Present.	Absent.	Present and absent.	Av. sick.	Av. absent.	Av. present.	Av. present and abs't.
June 30, 1888 (from Dec. 1, 1887)	190	1	191	191	15	2	4	21	146	24	170	6	11	129	140
June 30, 1889	205	10	215	385	76	10	25	111	232	45	274	8	35	223	258
June 30, 1890	174	12	187	461	62	16	11	89	280	93	373	13	59	290	349
June 30, 1891	174	35	209	581	88	18	29	135	324	122	446	30	79	353	422
June 30, 1892	140	32	172	618	209	30	31	270	267	81	348	44	84	342	426
June 30, 1893— Women.....	4	.....	4	4	.....	.....	.....	.....	4	.....	4	.....	.....	4	4
Men.....	131	74	205	553	144	21	22	187	276	90	366	50	64	308	372
June 30, 1894— Women..	5	.....	5	9	.....	.....	1	1	8	.....	8	.....	.....	7	7
Men.....	151	66	217	583	105	15	31	151	331	101	432	51	58	339	397
June 30, 1895— Women.....	11	.....	11	19	.....	.....	.....	.....	19	.....	19	2	.....	12	12
Men.....	211	108	319	731	126	20	37	183	447	121	568	56	82	412	494
June 30, 1896— Women.....	12	1	13	31	5	.....	1	6	24	1	25	.....	1	20	21
Men.....	120	61	181	749	142	10	27	179	445	125	570	62	105	473	578
June 30, 1897— Women.....	8	.....	8	38	1	.....	1	2	81	1	82	.....	1	31	32
Men.....	131	77	208	778	96	43	30	169	490	119	609	69	103	501	604
Total women.	40	1	41	41	6	.....	8	9	.....	.....	.....	.....	.....	.....	.....
Total men....	1,037	477	2,104	2,104	1063	185	247	1,495	.....	.....	.....	.....	.....	.....	.....

POPULATION FOR THE YEAR ENDING JUNE 30, 1896.

Present June 30, 1896 (men)	445
Present June 30, 1896 (women).....	24
Total.....	469
Absent June 30, 1896 (men).....	125
Absent June 30, 1896 (women)	1
Aggregate present and absent.....	595
Aggregate last report.....	587
Gain during year	8

Gain by admission (men).....	12
Gain by admission (women).....	12
Gain by readmission (men)	66
Gain by readmission (women).....	1
Total gain.....	123
Loss by discharge (men)....	142
Loss by discharge (women).....	5
Loss by dropped (men)	10
Loss by death (men).....	27
Loss by death (women).....	1
Total loss.....	185
Net gain during year.....	8
Whole number cared for during year, including thirty-one women.....	739
Average number present during year, including twenty women.....	423
Average number absent during year, including one woman.....	106
Average number present and absent during year, including twenty-one women..	529
Average number sick during year.....	63
Average age of members admitted during year.....	60.1
Average age of living members, June 30, 1896.....	61.5
Average age of members dying during year.....	63
Average term of service in months of 120 new members.....	26.7

YEAR ENDING JUNE 30, 1897.

Present June 30, 1897 (men).....	490
Present June 30, 1897 (women).....	31
Total.....	521
Absent June 30, 1897 (men)	119
Absent June 30, 1897 (women).....	1
Aggregate present and absent.....	641
Aggregate last report. .	525
Total gain.....	45
Gain by admission (men).....	131
Gain by admission (women).....	8
Gain by readmission (men).....	77
Total gain.....	216
Loss by discharge (men).....	98
Loss by dropped (men).....	43
Loss by death (men).....	36
Loss by death (women).....	1
Total loss.....	178
Net gain during year.....	48
Whole number cared for during the year, including thirty-eight women.....	816
Average number present during the year, including thirty-one women.....	522
Average number absent during the year, including one woman.....	104
Average number present and absent during year.....	626
Average number sick during the year.....	69
Average age of members admitted during the year.....	59.3
Average age of living members, June 30, 1897.....	62
Average age of thirty members dying during the year.....	64.5
Average term of service in months of 131 new members.....	27.3

ENLISTMENTS FROM DATE OF ORGANIZATION.

WHAT WAR.	WHAT SERVICE.
Mexican war 10	Regular army 67
Civil war..... 1,617	United States navy..... 24
Total..... 1,627	United States colored troops..... 10
	Volunteer army 1,536
	Total..... 1,627

Three of the Mexican war veterans served in the civil war also.
Tweve of the regular army veterans were enlisted in the volunteer service also.

STATES FROM WHICH ENLISTED—FROM DATE OF ORGANIZATION.

Arkansas.....	1	Missouri.....	46
California.....	10	Nebraska.....	8
Colorado.....	6	New Hampshire.....	8
Connecticut.....	7	New Jersey.....	10
District of Columbia.....	1	New York.....	95
Georgia.....	1	Ohio.....	93
Illinois.....	238	Oregon.....	1
Indiana.....	63	Pennsylvania.....	61
Iowa.....	814	Rhode Island.....	1
Kansas.....	10	Tennessee.....	3
Kentucky.....	8	Vermont.....	6
Louisiana.....	4	Virginia.....	3
Maine.....	3	West Virginia.....	2
Maryland.....	9	Wisconsin.....	73
Massachusetts.....	11	Dakota.....	1
Michigan.....	23		
Minnesota.....	20	Total.....	1,627
Mississippi.....	1		

NATIVITY OF MEMBERS ADMITTED DURING THE TWO YEARS ENDING
JUNE 30, 1897.

Native born.....	213
Foreign born.....	39
Total.....	251

NATIVITY OF FOREIGN BORN.

France.....	1	Ireland.....	10
Canada.....	6	Holland.....	3
England.....	5		
Sweden.....	1	Total.....	39
Germany.....	14		

SOCIAL CONDITION.

Married.....	113
Widowed.....	75
Single.....	63
Total.....	251

SUBSISTENCE.

GROSS AND PER CAPITA COST—YEAR ENDING JUNE 30, 1896.

Average number present during year.....	495
Gross cost of provision, first quarter.....	\$ 5,878.86
Gross cost of provision, second quarter.....	6,416.62
Gross cost of provision, third quarter.....	6,575.99
Gross cost of provision, fourth quarter.....	5,791.33
Total.....	\$24,662.80
Average cost per capita, first quarter.....	\$ 12.32
Average cost per capita, second quarter.....	12.52
Average cost per capita, third quarter.....	12.57
Average cost per capita, fourth quarter.....	12.43
Total average cost per capita, per year.....	\$ 49.84
Average cost of ration.....	13.66

YEAR ENDING JUNE 30, 1897.

Average number present during year.....	523
Gross cost of provision, first quarter.....	\$ 5,705.81
Gross cost of provision, second quarter.....	6,513.21
Gross cost of provision, third quarter.....	7,002.19
Gross cost of provision, fourth quarter.....	6,563.45
Total.....	\$25,784.66

Average cost per capita, first quarter.....	\$	11.84
Average cost per capita, second quarter.....		12.38
Average cost per capita, third quarter.....		12.22
Average cost per capita, fourth quarter.....		12.28
		<hr/>
Total average cost per capita, per year.....	\$	45.82
Average cost of ration.....		12.4

CLOTHING.

ARTICLES ISSUED DURING THE YEAR ENDING JUNE 30, 1896.

Hats, wool.....	522	Coats.....	506
Coats, great	34	Drawers, knit.....	1,109
Undershirts, knit.....	828	Shoes, pairs.....	626
Socks, pairs	2,615	Suspenders	627
Trousers.....	691	Vests	569
Boots, felt.....	1	Overalls.....	134
Overshirts.....	1,316	Slippers, pairs.....	57
Straw hats.....	255		
Total cost of clothing as above enumerated.....		\$	7,656.02
Average cost of clothing per capita.....			13.73

ARTICLES ISSUED DURING THE YEAR ENDING JUNE 30, 1897.

Hats, wool.....	533	Drawers, knit	1,096
Coats, great.....	28	Shoes, pairs.....	711
Undershirts, knit.....	787	Suspenders	629
Socks, pairs	2,487	Vests.	627
Trousers.....	720	Overalls.....	204
Overshirts	1,848	Slippers, pairs.....	2
Straw hats,	278	Mittens.....	21
Coats	627		
Total cost of clothing as above enumerated.....		\$	8,082.49
Average cost of clothing per capita			13.77

PENSIONS.

PENSIONERS JUNE 30, 1896.

At \$ 6.00 per month.....	170	At \$16.00 per month.....	13
At 8 00 per month	137	At 17.00 per month.....	12
At 10.00 per month.....	28	At 22.00 per month.....	1
At 11.25 per month.....	1	At 24.00 per month.....	3
At 12.00 per month.....	167		
At 13.00 per month.....	1	Total number of pensioners.....	543
At 14.00 per month.....	9		
Aggregate pensions paid at Home during year.....		Average rate of pensions...	22.2
Amount paid to pensioners personally.....		\$ 40,072.96	
Amount sent to dependent relatives.....		\$ 26,247.21	
Amount retained by Home.....		8,454.75	
		5,371.00— 40,072.96	

PENSIONERS JUNE 30, 1897.

At \$ 6.00 per month.....	175	At \$17.00 per month.....	13
At 8.00 per month.. ..	136	At 20 00 per month.....	1
At 10.00 per month.....	20	At 22.00 per month.....	1
At 11.25 per month.....	1	At 24.00 per month.....	3
At 12.00 per month.. .	177	At 25.00 per month.....	1
At 13.00 per month.....	1		
At 14.00 per month.....	13	Total number of pensioners.....	56
At 16.00 per month.....	8		
Aggregate pensions paid at Home during year.		Average rate of pensions.....	22.2
Amount paid to pensioners personally.....		\$ 42,342.15	
Amount sent to dependent relatives.....		\$ 26,825.50	
Amount retained by the Home.....		10,157.44	
		5,359.13— \$ 42,342.15	

MISCELLANEOUS.

EMPLOYES, CIVILIANS, JUNE 30, 1897.

Cooks.....	2	Hospital steward.....	1
Florist and gardener.....	1	Nurses.....	7
Laundress	1	Assistant engineer.....	1
Baker.....	1	Firemen.....	4

OCCUPATION OF MEMBERS ON EXTRA DUTY.

Bath man	1	Musician	1
Carpenter.....	1	Orderlies.....	2
Clerk	1	Parkkeeper	1
Cooks.....	8	Shoemaker.....	1
Assistant engineer.....	1	Stableman.....	1
Flagman.....	1	Tailor.....	1
Farm hands	5	Teamsters....	4
Fireman.....	1	Walters	23
Gardener.....	1	Watchmen.....	2
Gatekeeper	1	Linen room	1
Grave digger.....	1	Water closets.....	2
Hall cleaners.....	3	Vegetable man	1
Laborers	4	Ice and milk man.....	1
Laundrymen.....	4	Fruit and farm man.....	1

All of which is respectfully submitted,

B. F. WARFEL,
Adjutant.

QUARTERMASTER'S REPORT.

To Col. J. R. Ratekin, Commandant Iowa Soldiers' Home:

SIR—In conformity with your request I submit herewith a report of articles of subsistence purchased for use in this Home during the years ending June 30, 1896, and June 30, 1897, respectively, together with the aggregate cost of such purchases for each of the years indicated. The list as appended does not include condiments, spices, extracts, and numerous minor articles purchased in small quantities for hospital or other special use; but it does include the products of the farm that were turned to the support of the Home, including pickles and kraut, which were home grown and home made. Upon the other hand, the amounts given as aggregate cost of subsistence for the respective years includes all purchased supplies, but does not include any allowance for the value of those home grown, which have already been reported and will be found included in the statistics given by the adjutant. It should also be understood that the value of supplies purchased during these years is not exactly identical with the cost of supplies issued and consumed (the cost of "rations")—the difference being the variation between the value of what is carried over as "remaining on hand" at the beginning and at the close of each year, and also including the value of "supplies sold," as so accounted for by the commandant. The following are the figures in question, as consolidated from the monthly reports:

AMOUNT OF PROVISIONS ISSUED.

YEAR ENDING JUNE 30, 1896.

Apple butter (lbs.).....	1,305	Beans, string (bu.).....	4
Apples (gal. cans).....	204	Beef, corned (lbs.).....	27.00
Apples, green (bu.).....	238	Beef, dried (lbs.).....	13
Apricots (cans)	72	Beef, fresh (lbs.).....	37.15
Apricots (gal. cans).....	.....	Beets (bu.)	8
Bacon (lbs)	13,184	Butter (lbs.).....	16.15
Baking powder (lbs.).....	550	Blackberries (box).....	6
Bananas (doz.).....	115	Cabbage (heads).....	2.44
Beans, navy (lbs.).....	2,515	Celery (lbs.)....	57
Beans, lima (lbs.).....	2,125	Cheese (lbs.).....	4.61

Chickens (lbs.).....	1,181	Pears (3-lb. cans).....	240
Codfish (lbs).....	1,860	Pears (gal. cans).....	24
Coffee (lbs).....	8,217	Peas (cans).....	312
Corn (cans).....	2,928	Peas, green (bu.).....	41
Corn, green (doz.).....	968	Pickles, cucumber (gal.).....	450
Crackers (lbs.).....	3,202	Pickles, onion (gal.).....	60
Cranberries (qts.).....	172	Pieplant (lbs.).....	633
Cucumbers (bu.).....	11	Pineapples (cans).....	97
Eggs (doz.).....	5,203	Pork, fresh (lbs.).....	12,480
Fish, white, salt (lbs.).....	2,000	Pork, salt (lbs.).....	6,396
Flour, graham (lbs.).....	3,700	Potatoes (bu.).....	2,746
Flour, wheat (lbs.).....	114,150	Potatoes, sweet (bu.)..	108
Grapes (lbs.).....	.....	Prunes (lbs.).....	2,451
Greens (bu.).....	.....	Pumpkins (cans).....	720
Ham, boneless (lbs.).....	.....	Pigs' feet (lbs.).....	.....
Hams (lbs.).....	2,203	Rhubarb (gal. cans).....	.....
Hominy (lbs.).....	1,000	Raisins (lbs).....	.....
Jelly (lbs.).....	.....	Radishes (bunches).....	886
Jam (lbs.)..	.....	Raspberries (box).....	102
Lard (lbs.).....	310	Raspberries (cans).....	326
Lemons (doz).....	52	Rice (lbs.).....	1,794
Lettuce (bunches).....	223	Sausage, bologna (lbs.).....	.....
Liver (lbs.).....	1,815	Salmon (cans).....	192
Melons (No.).....	773	Sauerkraut (gal.).....	272
Macaroni (lbs.).....	.....	Sausage (lbs.).....	9,533
Meal, corn (lbs.).....	2,500	Squash (No.).....	420
Meal, oat (lbs.).....	7,200	Strawberries (box).....	153
Milk (lbs.).....	262,577	Sugar, brown (lbs.).....	.....
Mince meat (lbs.).....	412	Sugar, granulated (lbs.).....	33,500
Mustard (gal.).....	.....	Syrup (gal.).....	277
Mutton (lbs.).....	432	Sorghum (gal.).....	.....
Onions (bu.)... ..	111	Tea (lbs.).....	486
Onions (doz).....	750	Tomatoes (bu.).....	45
Oranges (doz.).....	292	Tomatoes (3-lb. cans).....	1,008
Oysters, fresh (qts.).....	243	Tomatoes (gal. cans).....	384
Oysters, cove (cans).....	192	Turkey (lbs.).....	1,119
Parsnips (bu.).....	41	Turnips (bu.).....	162
Peaches (3-lb. cans).....	866	Veal (lbs.).....	16,994
Peaches, pie (gal. cans).....	216	Vinegar, (gal.).....	466
Peaches, dried (lbs).....	2,626	Yeast (lbs.).....	243
Peaches, green (baskets).....	.....	
Aggregate amount expended for subsistence... ..		\$ 24,773.03	

YEAR ENDING JUNE 30, 1897.

Apple butter (lbs.).....	554	Cheese (lbs.).....	3,264
Apples (gal. cans.).....	84	Chickens (lbs.).....	620
Apples, green (bu.).....	665	Codfish (lbs.).....	1,664
Apricots (cans).....	.....	Coffee (lbs.).....	9,828
Apricots (gal.).....	420	Corn (cans).....	1,438
Bacon (lbs.).....	11,645	Corn, green (doz.).....	445
Baking powder (lbs.).....	680	Crackers (lbs.).....	2,661
Bananas (doz.).....	27	Cranberries (qts.).....	144
Beans, navy (lbs.).....	4,967	Cucumbers (bu.).....	17
Beans, lima (lbs.).....	925	Eggs (doz.).....	10,064
Beans, string (bu.).....	11	Fish, white, salt (lbs.).....	2,400
Beef, corned (lbs.).....	18,452	Flour, graham (lbs.).....	4,554
Beef, dried (lbs).....	245	Flour, wheat (lbs.).....	89,560
Beef, fresh (lbs.).....	49,503	Grapes (lbs.).....	270
Beets (bu).....	56	Greens (bu.).....	40
Butter (lbs.).....	22,956	Ham, boneless (lbs.).....	1,550
Blackberries (box).....	60	Hams (lbs.).....	2,005
Cabbage (heads).....	5,781	Hominy (lbs.).....	930
Celery (lbs).....	174	Jelly (lbs.).....	400

Jam (lbs.)	308	Pork, salt (lbs.).....	9,079
Lard (lbs.)	410	Potatoes (bu.)	2,907
Lemons (doz.)	70	Potatoes, sweet (bu.).....	126
Lettuce (bunches)	54	Prunes (lbs)	1,453
Liver (lbs.).....	1,330	Pumpkins (cans).....	340
Melons (No).....	241	Pigs' feet (lbs.).....	600
Macaroni (lbs)	185	Rhubarb (gal. cans).....	129
Meal, corn (lbs).....	3,440	Raisins (lbs).....	508
Meal, oat (lbs.).....	8,690	Radishes (bunches).....	1,112
Milk (lbs.)	289,835	Raspberries (box).....	.....
Mince meat (lbs.)... ..	739	Raspberries (cans).....	36
Mustard (gal.)	62	Rice (lbs)	2,594
Mutton (lbs.).....	47	Sausage, bologna (lbs.).....	159
Onions (bu.).....	130	Salmon (cans)	96
Onions (d z.).....	1,723	Sauerkraut (gal.).....	417
Oranges (doz.).....	98	Sausage (lbs.).....	7,275
Oysters, fresh (qts.).....	160	Squash (No.) .....	.....
Oysters, cove (cans).....	672	Strawberries (box)	33
Parsnips (bu).....	52	Sugar, brown (lbs.).....	663
Peaches (3 lb. cans)	96	Sugar, gran. (lbs).....	29,100
Peaches, pie (gal. cans).....	1,200	Syrup (gal.)	161
Peaches, dried (lbs)	1,882	Sorghum (gal.).....	163
Peaches, green (baskets).....	43	Tea (lbs)	928
Pears (3 lb. cans)	168	Tomatoes (bu).....	66
Pears (gal. cans).....	.....	Tomatoes (3 lb. cans).....	300
Peas (cans). ..	168	Tomatoes (gal. cans).....	1,274
Peas, green (bu).....	48	Turkey (lbs)	1,121
Pickles, cucumber (gal.)	235	Turnips (bu.).....	124
Pickles, onion (gal).....	60	Veal (lbs).....	9,604
Pie plant (lbs.).....	1,658	Vin: gar (gal.).....	465
Pineapples (cans)	48	Yeast (lbs.).....	229
Pork, fresh (lbs.)	18,860		
Aggregate amount expended for subsistence.....		\$ 26,225.00	

Soft coal is used for fuel to supply both light and heat, and for cooking purposes, except baking. The total amount purchased during the period covered by this report, with cost of same, is as follows:

YEAR ENDING JUNE 30, 1896.

Anthracite coal.....	54,000 pounds, costing	\$ 205.65
Bituminous coal	5,416,140 pounds, costing	6,120.65

YEAR ENDING JUNE 30, 1897.

Anthracite coal	58,990 pounds, costing	\$ 238.31
Bituminous coal	6,258,065 pounds, costing	6,972.11

Respectfully submitted,

C. L. LONGLEY,
Quartermaster.

SURGEON'S REPORT.

Honorable Board of Commissioners, Iowa Soldiers' Home:

GENTLEMEN—I have the honor to submit herewith my biennial report for the two years ending June 30, 1897. During this period the munificence of the state has enabled you to erect at the Home a new hospital, which in design, adaptation, equipment and general completeness is not surpassed by any similar institution in the west. The facilities thereby added for taking care of the sick and disabled are all that could be desired for the present, and probably for many years to come.

Your generous encouragement and support have enabled me to establish a corps of trained female nurses at the hospital, whose services have been most gratefully appreciated by the inmates and have added much to the general efficiency of the institution.

In pursuance of my understanding of the wishes and policy of the grateful, patriotic people of Iowa, and of your honorable board, I have not spared what clearly appeared to me actually needed labor and expense to as far as possible aid and render comfortable such of the inmates of the Soldiers' Home as have come under my professional care.

The following statement shows the work and results in my department during the period covered by this report:

	Year ending June 30, 1896.	Year ending June 30, 1897.
Number treated in hospital.....	180	173
Number treated, convalescing.....	150	146
Number treated, sick call, each case counted once.....	575	600
Total	905	919
Number deaths in Home during year	27	26
Number deaths away from Home during year.....	2	5
Total	29	31

	Year ending June 30, 1896.	Year ending June 30, 1897.
Number totally insane during year	10	14
Number impaired cerebration (not totally insane)	8	5
Total	18	19
Number totally blind.....	3	4
Number partially blind.....	1	1
Total	4	5
Number sent to Mt. Pleasant hospital.....	2	3
Number cared for during year	749	773
Number deaths per 100 inmates cared for.....	3.87	3.85
Number prescriptions put up at sick call.....		25,422
Number prescriptions put up in hospital.....		14,200
Total.....		39,622

Expenses incurred for drugs, medicines, medicated foods, meat extracts, liquors, hospital supplies, etc., during the bien-nial period are shown by the subjoined statement:

YEAR ENDING.	Alcohol.	Supplies.	Food.	Morphine.	Sundries.	McBrayer	Medicine.	Liquors.
June 30, 1896.....	\$ 55.62	\$307.35	\$254.90	\$28.23	\$34.58	\$11.98	\$1340.41	\$ 47.98
June 30, 1897.....	68.10	480.33	351.45	65.77	.....	49.20	1652.44	754.63
Total	\$123.72	\$787.68	\$606.45	\$94.05	\$24.56	\$61.16	\$2992.85	\$1231.61
Amt. on hand July 1, '97							375.00	135.00
							\$2617.85	\$1096.61

I beg to call your attention to the fact that by the system of bookkeeping and division of accounts now employed at the Iowa Soldiers' Home, but so far as I am informed adopted at no other similar institute, medicated foods, meat extracts, liquors, vari-ous temporary and permanent hospital supplies, surgical instru-ments, and many other things are included in the "drug bill" of the Home. By this means, the expenses for "drugs" at this institution are made to appear large when compared with those of similar institutions elsewhere. For example, the drug bill of the Home for the year 1897 appears to amount to about \$3,433; whereas, in fact, it amounts to about \$1,652; while the drugs remaining on hand at the close of the year were valued at about \$375. This would leave the actual drug bill of the year at \$1,277, instead of \$3,433, as it is made to appear. In the drug bill of 1897, is included such things as shelfware and fur-nishings for the dispensary, scales, prescription bottles, surgical

instruments, rubber sheetings, crutches, trusses, syringes, suspensory and assorted bandages, sponges, elastic stockings, knee caps and barber shop supplies, with a score of other things not properly (if ever before) classified as drugs.

Two other points deserve consideration in connection with the item of expense for drugs. The first is the fact that pursuant to the general policy of the Home management, as well as agreeable to good business methods, only the best quality has been purchased and used.

The second and more important one is that the volume of drugs used very largely depends upon whether the administrative policy of the Home is one of liberality or the reverse. In this Home, it is and has been a liberal one. Milk, sugar and butter are placed on the tables and used *ad libitum*, contrary to the practice in all national and many state soldiers' homes, where all the milk and sugar that is seen is put in the coffee before serving, and a small pot of butter is laid beside each plate once or twice a day. So has a broad and liberal policy obtained in the hospital, all comers (and the Home members are all ailing and all confirmed medicine-takers) having been prescribed for. To put it in a nut-shell, it is simply a question of whether the wishes and needs of those old people shall be generally gratified or denied. Heretofore, the former policy has been followed in the medical as well as in the other departments of the Home. If a change is desired, the surgeon should be so informed upon competent authority.

The expense for liquor for 1897, which, less the quantity on hand at the end of the year, was \$618.60, is also permitted to swell the sum total of the year's drug bill, as shown by the books of the Home. The policy of supplying certain of the inmates with a limited quantity of liquor from time to time, both for their own good and for the better discipline of the institution, is a policy for which the surgeon can neither claim credit nor be held responsible.

The total number of prescriptions filled during the biennial period was 39,622, at an average cost to the institution of 6.63 cents each, which is, perhaps, as low a rate as prevails in a majority of institutions of similar character.

It affords me much gratification to call your attention to the low death rate in our institution during the period covered by this report, compared with that of the Illinois Soldiers' Home, which deservedly ranks among the foremost and best in the

country in all respects. For the year 1896, the death rate in the Iowa Home was 3.87 per 100, while in the Illinois Home it was 7 per 100. For the year 1897, the rate in the Iowa Home was 3.85, and in the Illinois Home, 7.3 per 100. This shows a death rate of nearly 50 per cent in favor of the Iowa Home

In conclusion, I beg to tender the members of your honorable body my sincere thanks for the uniform courtesy and consideration they have shown me in both personal and official associations.

Very respectfully submitted,

H. P. DUFFIELD,

Surgeon.

TREASURER'S REPORT.

TREASURER'S REPORT.

WASHINGTON, Iowa, July 1, 1897.

To the Board of Commissioners of the Iowa Soldiers' Home:

GENTLEMEN—In accordance with law I herewith submit a statement of the receipts and disbursements of the Iowa Soldiers' Home for the biennial period ending June 30, 1897.

From July 12, 1895, until June 18, 1896, this office was administered by Mr. A. T. Birchard, and from June 18th to this date by myself.

Respectfully submitted,

J. W. MORTON,
Treasurer.

SUPPORT FUND.

RECEIPTS.

1895.

July	11.	To state warrant No. 1873.....	5,570.00
July	20.	To J. R. Ratekin, groceries sold.	48.77
July	20.	To J. R. Ratekin, miscellaneous sales....	6.50
July	20.	To J. R. Ratekin, rent of house and lot.....	25.00
July	20.	To J. R. Ratekin, freight rebate.	4.21
July	20.	To correction on car crushed stone	2.25
Sept.	1.	To state warrant No. 2800.....	5,890.00
Oct.	7.	To state warrant No. 3175....	5,990.00
Oct.	9.	To J. R. Ratekin, funeral expense refund	41.00
Oct.	9.	To J. R. Ratekin, sale of old house	5.00
Oct.	9.	To J. R. Ratekin, sale of groceries.....	48.83
Oct.	9.	To J. R. Ratekin, sale of clothing.....	8.45
Oct.	9.	To J. R. Ratekin, sale of hogs	101.87
Oct.	9.	To J. R. Ratekin, freight rebate.....	31.76
Nov.	1.	To state warrant No. 2290.....	5,740.00
Nov.	18.	To state warrant No. 3766.....	6,040.00
Nov.	21.	To J. R. Ratekin, sundry sales.....	101.35
Dec.	14.	To state warrant No. 4398.....	6,060.00
Dec.	24.	To J. R. Ratekin, rent of farm house.....	26.65
Dec.	24.	To J. R. Ratekin, rebate on tobacco and sale of old clothing.....	6.50
Dec.	24.	To J. R. Ratekin, sale of groceries.....	23.54
Dec.	24.	To J. R. Ratekin, sale of clothing.....	3.25
Dec.	24.	To J. R. Ratekin, sale of hogs.....	50.08

1896.				
Jan.	13.	To state warrant No. 4005.....	\$	6,000.00
Feb.	7.	To J. R. Ratekin, refund of funeral expenses		56.74
Feb.	7.	To J. R. Ratekin, clothing sold		60.25
Feb.	7.	To J. R. Ratekin, groceries sold.....		14.06
Feb.	7.	To J. R. Ratekin, freight rebate		13.11
Feb.	21.	To state warrant No. 6059	6,000.00	
March	23.	To state warrant No. 6872	6,000.00	
April	1.	To amount transferred from coal house fund ..		2.97
April	24.	To state warrant No 7855	6,000.00	
May	8.	To J. R. Ratekin, rebate on funeral expenses and rent.....		62.00
May	8.	To J. R. Ratekin, sale of groceries.....		59.63
May	8.	To J. R. Ratekin, sale of clothing.....		57.06
May	8.	To freight rebate		19.41
May	19.	To state warrant No. 8239.....	6,030.00	
June	17.	To amount transferred from contingent fund.....		540.23
June	17.	To amount transferred from entertainment fund.....		60.90
July	4.	To state warrant No. 8906.....	5,980.00	
July	18.	To J. R. Ratekin, miscellaneous sales... ..		129.31
July	18.	To J. R. Ratekin, quartermaster stores sold.....		75.00
July	18.	To J. R. Ratekin, clothing sold		6.20
July	18.	To J. R. Ratekin, farm products and rents.....		25.00
July	30.	To state warrant No. 9141	5,940.00	
Sept.	1.	To state warrant No. 9597.....	5,970.00	
Oct.	7.	To state warrant No. 10403	6,030.00	
Oct.	16.	To J. R. Ratekin, miscellaneous sales.....		104.62
Oct.	16.	To J. R. Ratekin, quartermaster stores.....		50.25
Oct.	16.	To J. R. Ratekin, clothing		7.88
Oct.	16.	To J. R. Ratekin, farm products and rents.....		49.26
Oct.	27.	To state warrant No. 10639.....	6,030.00	
Nov.	19.	To J. R. Ratekin, miscellaneous sales.....		10.65
Nov.	19.	To J. R. Ratekin, quartermaster stores sold		62.39
Nov.	19.	To J. R. Ratekin, freight rebate.....		20.00
Nov.	19.	To J. R. Ratekin, farm products sold		25.00
Nov.	19.	To J. R. Ratekin, old clothes sold.....		2.25
Nov.	25.	To state warrant No. 1120	6,140.00	
Dec.	22.	To state warrant No. 11512	6,220.00	
Dec.	26.	To J. R. Ratekin, quartermaster stores and clothing.....		143.16
1897.				
Jan.	14.	To state warrant No. 11906	6,300.00	
Jan.	14.	To premium on warrant.....		18.37
Jan.	25.	To J. R. Ratekin, miscellaneous sales		118.65
Jan.	25.	To J. R. Ratekin, clothing sold		2.35
Jan.	25.	To J. R. Ratekin, farm products and rent.....		296.57
Feb.	22.	To state warrant No. 12852	6,350.00	
Feb.	22.	To J. R. Ratekin, miscellaneous sales.		97.62
March	12.	To state warrant No. 13243	6,410.00	
April	12.	To state warrant No. 13932.....	6,470.00	
May	6.	To J. R. Ratekin, farm products and rents.....		169.65
May	6.	To J. R. Ratekin, clothing sold ..		29.67
May	6.	To J. R. Ratekin, miscellaneous.....		350.00
May	14.	To state warrant No. 14863.....	6,500.00	
June	7.	To state warrant No. 15385.....	6,460.00	
June	7.	To premium on state warrants.....		21.15
Total			\$	149,698.92

DISBURSEMENTS.

1896.				
July	1.	By amount overdrawn as per last biennial report.....	\$	57.25
August	12.	By July disbursements.....		3,369.14
Sept.	9.	By August disbursements		4,443.19
Oct.	8.	By September disbursements.....		4,708.75
Nov.	9.	By October disbursements.....		5,664.51
Dec.	7.	By November disbursements.....		4,969.12

1896.			
Jan.	8.	By December disbursements..	\$ 5,171.00
Feb.	3.	By refund to state treasury.....	3,607.08
Feb.	29.	By January disbursements.....	6,109.96
March	7.	By February disbursements.....	4,726 92
April	7.	By March disbursements.....	4,831 57
May	11.	By April disbursements.....	5,223 91
May	23.	By refund to state treasury....	8,162.87
June	9.	By May disbursements	3,901 97
June	9.	By transfer to salary and wages account	859 12
June	10.	By balance May disbursements.....	148.40
July	10.	By June disbursements.....	4,788.66
August	18.	By July disbursements.....	5,512 19
Sept.	11.	By August disbursements.....	4,616.10
Oct.	15.	By September disbursements	6,558.49
Nov.	12.	By October disbursements.....	6,571 19
Dec.	7.	By November disbursements.....	7,054.77
1897.			
Jan.	12.	By December disbursements	5,816.75
Jan.	20.	By transferred to painting account	37.46
Feb	11.	By January disbursements	7,042.70
March	15.	By February disbursements.....	6,141.80
April	10.	By March disbursements.....	6,758 60
May	10.	By April disbursements	5,818 69
May	12.	By amount transferred to hospital furnishing account.....	2,891 39
May	28.	By amount transferred to hospital furnishing account.....	67 25
June	15.	By May disbursements.....	8,265.90
June	30.	By balance on hand.....	6,414.85
Total.....			\$ 149,699.92

SALARY AND WAGES.

RECEIPTS.

1896.			
July	11.	To state warrant No. 1872.....	\$ 1,250.00
July	11.	To error on payroll	5.10
August	5.	To state warrant No. 2289.....	1,250 00
Sept.	7.	To state warrant No. 2668.....	1,250.00
Oct.	14.	To error on September payroll.....	2.70
Oct.	14.	To state warrant No. 3174.....	1,250.00
Nov.	18.	To state warrant No. 3765.....	1,250.00
Dec.	14.	To state warrant No. 4397.....	1,250.00
1896.			
Jan.	13.	To state warrant No. 4904.....	1,250.00
Feb	21.	To state warrant No. 6058.....	1,250 00
March	23.	To state warrant No. 6871.....	1,250 00
April	24.	To state warrant No. 7854.....	1,250.00
May	19.	To state warrant No. 8240.....	1,250.00
June	9.	To transferred from support fund.....	859.12
July	4.	To state warrant No. 8905.....	1,050.00
July	30.	To state warrant No. 9140.....	1,050 00
Sept.	1.	To state warrant No. 9596.....	1,050.00
Oct.	7.	To state warrant No. 10402.....	1,050.00
Oct.	27.	To state warrant No. 10638.....	1,050 00
Nov.	25.	To state warrant No. 11119.....	1,050 00
Dec.	24.	To state warrant No. 11511.....	1,050 00
1897.			
Jan.	14.	To state warrant No. 11904.....	1,050.00
Feb.	23.	To state warrant No. 12851.....	1,050.00
March	9.	To state warrant No. 13242.....	1,050.00
April	12.	To state warrant No. 13931.....	1,050.00
May	14.	To state warrant No. 14862.....	1,050.00
June	7.	To state warrant No. 15334.....	1,050.00
Total.....			\$ 23,266.92

DISBURSEMENTS.

1896.			
July	1.	By amount overdrawn as per last biennial report.....	\$ 987.53
August	1.	By amount July disbursements.. ..	1,413 07
Sept.	9.	By amount August disbursements	1,373.00
Oct.	8.	By amount September disbursements.	1,491 45
Nov.	9.	By amount October disbursements.....	1,435.71
Dec.	7.	By amount November disbursements.....	1,114 98
1896.			
Jan.	8.	By amount December disbursements.....	1,312.37
Feb.	6.	By amount January disbursements.....	1,002.53
March	7.	By amount February disbursements	1,060 70
April	7.	By amount March disbursements.....	1,068.36
May	11.	By amount April disbursements	1,209.27
June	9.	By amount May disbursements.....	1,107.50
July	8.	By amount June disbursements.....	930.41
August	13.	By amount July disbursements.....	1,007.69
Sept.	10.	By amount August disbursements.....	1,104.50
Oct.	8.	By amount September disbursements.....	1,100.05
Nov.	12.	By amount October disbursements.....	1,071.49
Dec.	7.	By amount November disbursements.....	1,085.34
1897.			
Jan.	13.	By amount December disbursements	1,039.64
Feb.	11.	By amount January disbursements.....	1,053 56
March	15.	By amount February disbursements.....	1,045 79
April	8.	By amount March disbursements.....	1,051.84
May	5.	By amount April disbursements.	1,060 29
June	15.	By amount May disbursements.....	1,044.39
June	30.	By balance on hand.....	1,054.99
Total.....			\$ 23,266.92

EXCESS PENSION FUND.

RECEIPTS.

1896.			
Oct.	24.	J. R. Ratekin, commandant.....	\$ 4,845.98
Nov.	21.	J. R. Ratekin, commandant.....	2,998.00
Dec.	26.	J. R. Ratekin, commandant.....	138.30
1897.			
Jan.	28.	J. R. Ratekin, commandant	44 00
Feb.	22.	J. R. Ratekin, commandant.....	1,236 30
May	6.	J. R. Ratekin, commandant.....	1,834.55
Total			\$ 10,997.13

DISBURSEMENTS.

Feb.	24.	John Herriott, treasurer of state.....	4,013 14
May	16.	John Herriott, treasurer of state.....	4,000.00
June	30.	Balance on hand.....	2,583.99
Total.			\$ 10,597 13

COMPLETING ATTIC IN WOMAN'S BUILDING.

RECEIPTS.

1896.			
Oct.	14.	State warrant No. 10636.....	\$ 200.00
1897.			
March	18.	Transferred to contingent fund.....	31.37
Total			\$ 200.00

DISBURSEMENTS.

Oct.	6.	A. O. Abott & Son, hardware.....	5.85
Oct.	6.	A. A. Moore, lumber.....	156.78
Oct.	8.	E. B. McGuffin, labor.....	2 50
Oct.	8.	Charles Knap, labor.....	.50
Oct.	8.	M. Coleman, labor.....	3 00

NEW BOILER FUND.

RECEIPTS.			
1896.			
Oct	14.	State warrant No. 10473	\$ 1,000.00
		Total.....	\$ 1,000.00

DISBURSEMENTS.			
1896.			
Dec.	3.	Wilson, Beamer & Co., on contract ..	\$ 500.00
1897.			
Jan.	12.	Wilson, Beamer & Co., on contract	402.00
March	11.	Transferred to contingent fund	98.00
		Total.....	\$ 1,000 00

NEW DYNAMO FUND.

RECEIPTS.			
1896.			
Oct.	14.	State warrant No. 10471.....	\$ 1,000 00
		Total	\$ 1,000.00

DISBURSEMENTS			
1897.			
Jan.	1.	Westinghouse Electric Co	\$ 987 00
March	11.	Transferred to contingent fund	63.00
		Total.....	\$ 1,000.00

RESIDENCE FOR COMMANDANT FUND.

RECEIPTS.			
1896.			
July	8.	State warrant No. 8933	\$ 500 00
July	30.	State warrant No. 9143	650.00
Sept.	29.	State warrant No. 10160	850.00
		Total	\$ 2,000.00

DISBURSEMENTS.			
1896.			
August	4.	J. F. Atkinson & Bro, on contract.....	\$ 1,000 00
Sept.	8.	J. F. Atkinson & Bro, on contract	1,000.00
		Total	\$ 2,000 00

RESIDENCE FOR SURGEON FUND.

RECEIPTS.			
1896.			
July	8.	State warrant No. 8934.....	\$ 500 00
July	30.	State warrant No. 9144.....	650.00
Sept.	29.	State warrant No. 10161....	850 00
		Total... ..	\$ 2,000 00

DISBURSEMENTS.			
1896.			
August	4.	J. F. Atkinson & Bro, on contract.....	\$ 1,000.00
Sept.	8.	J. F. Atkinson & Bro, on contract.....	1,000.00
		Total.....	\$ 2,000.00

NEW HOSPITAL FUND.

RECEIPTS.			
1896.			
July	8.	State warrant No. 8931.....	\$ 2,000 00
July	30.	State warrant No. 9142.....	4,500.00
August	17.	State warrant No. 9509.....	5,000.00
August	17.	State warrant No. 9510.....	5,000 00
August	17.	State warrant No. 9511.....	5,000.00

1896.

August 22.	State warrant No. 9570.....	\$ 5,000.00
Sept. 29.	State warrant No. 10157.	5,000.00
Sept. 29.	State warrant No. 10158.....	5,000.00
Sept. 29.	State warrant No. 10159.....	2,500.00
Nov. 19.	Accumulated interest on warrants.....	92.16
Feb. 27.	Transferred from contingent fund	407.91
March 2.	Transferred from contingent fund ...	32.36
Total.....		\$ 40,563.32

DISBURSEMENTS.

1896.

June 18.	S. B. Evans, per diem and expense.....	25.00
June 18.	J. W. Morton, per diem and expense.....	32.30
June 18.	Foster & Leibbe, architects	500.00
June 23.	L. B. Raymond, called meeting of board.....	14.25
June 23.	S. B. Evans, called meeting of board.....	12.50
June 23.	G. L. Godfrey, called meeting of board.....	12.75
June 23.	J. W. Morton, called meeting of board	25.50
July 8.	G. L. Godfrey, building committee	9.75
July 16.	L. B. Raymond, called meeting of board.....	9.60
July 16.	L. B. Raymond, called meeting of board.....	16.00
July 16.	S. B. Evans, called meeting of board.....	25.00
July 16.	J. W. Morton, called meeting of board	25.10
July 16.	J. F. Atkinson & Bro., on contract.....	2,000.00
August 4.	J. F. Atkinson & Bro., on contract.....	2,675.00
August 13.	L. B. Raymond, building committee.....	12.00
August 13.	S. B. Evans, building committee.	15.00
August 13.	S. B. Evans, building committee	25.50
August 13.	G. L. Godfrey, building committee.....	16.00
August 13.	G. L. Godfrey, building committee.....	12.50
August 13.	G. L. Godfrey, building committee	19.50
August 13.	G. L. Godfrey, building committee.....	12.75
August 13.	G. L. Godfrey, building committee.....	12.75
August 13.	John E. O'Hara, work about new buildings.....	2.25
August 13.	O. Johnson, work about new buildings	2.50
August 13.	Clement Johnson, work about new buildings.....	.50
August 13.	James Taylor, work about new buildings	1.00
August 13.	James Taylor, work about new buildings	1.25
August 13.	John Hartney, work about new buildings.....	6.00
August 13.	Tim Hayes, work about new buildings.....	4.75
August 13.	James J. Jordan, work about new buildings.....	16.00
August 13.	F. S. Whiting, superintendent	88.00
August 13.	Times-Republican, advertising for proposals.....	35.75
August 13.	Courier Printing company, advertising for proposals... ..	12.25
August 13.	Des Moines Register, advertising for proposals.....	22.50
August 13.	Des Moines Leader, advertising for proposals	35.75
August 20.	Iowa National bank, discount on warrants.....	50.00
Sept. 8.	J. F. Atkinson & Bro., on contract.....	6,800.00
Sept. 8.	O. Johnson	4.75
Sept. 8.	L. B. Raymond, building committee.....	25.00
Sept. 8.	G. L. Godfrey, building committee.....	17.00
Sept. 8.	S. B. Evans, building committee.	15.00
Sept. 8.	F. S. Whiting, superintendent buildings....	102.00
Oct. 6.	O. A. Seeley.....	34.25
Oct. 6.	S. O. Blake & Co	30.15
Oct. 8.	J. F. Atkinson & Bro., on contract	7,225.00
Oct. 8.	G. L. Godfrey, building committee.....	19.00
Oct. 8.	G. L. Godfrey, building committee	9.50
Oct. 8.	G. L. Godfrey, building committee	13.75
Oct. 8.	G. L. Godfrey, building committee.....	13.50
Oct. 8.	G. L. Godfrey, building committee.....	12.00
Oct. 8.	S. B. Evans, building committee.....	20.00

1896.

Oct.	8.	S. B. Evans, building committee	\$ 15.00
Oct.	8.	S. B. Evans, building committee....	27.50
Oct.	8.	S. B. Evans, building committee.....	15 00
Oct.	8.	L. B. Raymond, building committee.....	40.50
Oct.	8.	L. B. Raymond, building committee	8.00
Oct.	8.	John O'Hara, work about new buildings.....	8 00
Oct.	8.	James L. Daniels, work about new buildings.....	2 00
Oct.	8.	D. Corcoran, work about new buildings .....	.50
Oct.	8.	O. Ratekin, work about new buildings.....	4.87
Oct.	8.	John Hartney, work about new buildings.....	9.75
Oct.	8.	James J. Jordan, work about new buildings.....	7.00
Oct.	8.	J. L. Daniels, work about new buildings.....	3.50
Oct.	8.	Tim Hayes, work about new buildings.....	3.50
Oct.	8.	H. F. Liebbe, expense to Ottumwa.....	4.70
Oct.	8.	James Taylor, work on cesspool	3.40
Oct.	8.	S. B. Evans, building committee	15.00
Oct.	14.	J. R. Allward, transoms.....	21.70
Oct.	14.	The Improvement Bulletin, advertising	16.40
Oct.	14.	William Bremmer, civil engineering	11.00
Oct.	14.	The American Contractor, advertising.....	25.20
Oct.	15.	S. B. Evans, building committee	15.00
Oct.	22.	Wilson, Beamer & Co, on contract.....	3,400.00
Nov.	4.	Jacob Chelton, discount on warrants.	25.00
Nov.	6.	Foster & Liebbe, on contract	300.00
Nov.	7.	J. F. Atkinson & Bro., on contract	5,100.00
Nov.	11.	Citizens bank, Hampton, discount on warrant.....	18.54
Nov.	11.	G. L. Godfrey, building committee.....	8.00
Nov.	11.	G. L. Godfrey, building committee.....	16.25
Nov.	11.	G. L. Godfrey, building committee.....	12.40
Nov.	11.	G. L. Godfrey, building committee	12.75
Nov.	11.	L. B. Raymond, building committee	16.00
Nov.	11.	L. B. Raymond, building committee	16.50
Nov.	11.	L. B. Raymond, building committee	12.00
Nov.	11.	L. B. Raymond, building committee	16 00
Nov.	11.	F. S. Whiting, superintendent buildings.....	108.00
Nov.	11.	F. S. Whiting, superintendent buildings.....	116 00
Nov.	11.	John Cooper, laying pipe.....	3.00
Nov.	11.	John Hartney, laying pipe.....	4.00
Nov.	11.	John O'Donnell, laying pipe	3.00
Nov.	11.	E Barker, laying pipe....	31 00
Nov.	11.	O. Shurtliff, laying pipe ..	.75
Nov.	12.	Western Electric company, W. B. wire.....	258 58
Nov.	12.	J. A. Lane, hardware... ..	7.40
Nov.	12.	E. A. Shorthill, flag holder.....	1.49
Nov.	12.	Lenox Machine company, plumbing supplies.....	6 00
Nov.	12.	G. W. Beasley, hauling.....	4 00
Nov.	12.	S. O. Blake & Co., plumbing supplies.....	1.65
Nov.	12.	Seig & Size, brick....	84.30
Nov.	12.	H. P. Duffield, committee expenses.....	43 39
Nov.	12.	Troy Laundry Manufacturing company.....	66.70
Nov.	12.	Ferguson Supply company, pipe.....	63.82
Nov.	12.	Ketchum & Johnson, grass seed. .	42 00
Nov.	12.	B. A. Morgan, paints	38 30
Nov.	12.	First National bank, Marshalltown, discount on warrants.....	46 40
Nov.	23.	Wilson, Beamer & Co., on contract.....	1,275.00
Nov.	23.	J. F. Atkinson & Bro., on contract.....	1,700.00
Dec.	4.	J. F. Atkinson & Bro., on contract.....	5,542.08
Dec.	7.	Thomas Dupuis, electric wiring	51 62
Dec.	7.	Baker Bros., sewer pipe.....	6.71
Dec.	7.	J. C. Dimm, lime and cement.....	2.75
Dec.	7.	A. A. Moore, lumber	75.40
Dec.	7.	Heinz & Hanson, asbestoe paper	8.40

1896.

Dec.	7.	G. L. Godfrey, building committee.....	8	16.25
Dec.	7.	G. L. Godfrey, building committee.....		21.25
Dec.	7.	S. B. Evans, building committee.....		25.00
Dec.	7.	S. B. Evans, building committee.....		15.00
Dec.	7.	L. B. Raymond, building committee.....		28.75
Dec.	7.	L. B. Raymond, building committee.....		16.00
Dec.	23.	Wm. Daniels, benzine.....		.50
Dec.	23.	F. S. Whiting, superintendent of buildings.....		100.00
Dec.	23.	M. V. Honock, carpenter work.....		26.10
Dec.	23.	Ed. Marion, carpenter work.....		31.25
Dec.	23.	T. J. Stewart, carpenter work.....		19.12
Dec.	23.	G. L. Godfrey, building committee.....		16.25
Dec.	23.	G. L. Godfrey, building committee.....		19.75
Dec.	23.	L. B. Raymond, building committee.....		16.50

1897.

Jan.	1.	A. W. Walker & Co., sink and trap.....		1.00
Jan.	1.	Getchell & Martin, lumber.....		79.55
Jan.	23.	A. O. Abbott & Son.....		12.25
Jan.	1.	The Iowa Electric company, electric lamps.....		37.09
Jan.	1.	The Adamant company, adamant.....		63.90
Jan.	20.	B. A. Morgan, glass.....		26.30
Jan.	20.	O. W. Boggs & Co., glass.....		9.35
Jan.	20.	A. A. Moore, lumber.....		30.45
Jan.	20.	A. E. Shorthill, guards and sash bars.....		22.40
Jan.	20.	A. A. Moore, lumber.....		22.51
Jan.	20.	J. A. Graves & Co., locks and butts.....		29.00
Jan.	20.	J. A. Atkinson & Bro., extra painting.....		43.80
Jan.	20.	G. L. Godfrey, building committee.....		12.25
Jan.	20.	F. S. Whiting, superintendent of buildings.....		60.00
Feb.	5.	Herrick Refrigerator company, refrigerator.....		290.00
Feb.	11.	L. B. Raymond, building committee.....		12.00
Feb.	11.	S. B. Evans, building committee.....		15.00
Feb.	11.	L. B. Raymond, building committee.....		2.80
Feb.	11.	Foster & Liebbe, architects.....		350.00
Feb.	11.	G. L. Godfrey, building committee.....		12.50
Feb.	11.	B. Hoffman, rent of room for bidders.....		5.00
Feb.	11.	L. B. Raymond, building committee.....		17.00
Feb.	11.	S. B. Evans, building committee.....		25.00
Feb.	11.	E. H. Mathews, inspecting heating furnace.....		10.50
March	1.	J. R. Allward, transoms.....		49.00
March	1.	A. A. Moore, lumber.....		22.25

Total 40,563.23

NEW HOSPITAL FURNISHING FUND.

RECEIPTS.

1896.

Oct.	27.	By warrant No. 10636.....	8	2,000.00
May	12.	Transferred from support fund.....		2,891.39
May	28.	Transferred from support fund.....		67.25

Total 4,958.64

DISBURSEMENTS.

1896.

Dec.	7.	Dean, Huot B. & M. company, kitchen furniture.....	8	347.50
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1897.

Jan.	20.	A. O. Abbott & Son, tableware.....		24.00
Jan.	20.	Stevens, Allen O. M. company, mattresses and pillows.....		58.25
Jan.	20.	L. B. Raymond, committee work.....		44.00
Jan.	20.	H. P. Duffield, committee work.....		27.50
Jan.	26.	Kreutzer & Wassen, dining tables.....		144.00
Jan.	26.	T. Z. Cook & Lawrence Co., queensware.....		67.50
Jan.	26.	Sharp & Smith, Edebolt table.....		60.00

1897.

Jan.	26.	Sharp & Smith, surgical instruments.....	\$ 111.60
Jan.	26.	L. Harbach, furniture.....	375.85
Jan.	26.	D. O. Wilbur, furniture	1,735.36
Feb.	15.	Jno. Schobert, supplies	1,205.93
Feb.	15.	A. O. McOlurg & Co., books	16.72
Feb.	15.	D. O. Wilbur, supplies.....	.60
Feb.	15.	Sharp & Smith, wheel stretcher.....	30.00
Feb.	15.	Sharp & Smith, silk tubing.....	2.46
Feb.	15.	Andrews & Hoyt, supplies... ..	8.28
Feb.	15.	F. O. Anderson & Bro., painting.....	13.25
Feb.	15.	M. F. Andrews, furnishing.....	111.53
Feb.	15.	B. A. Morgan, supplies for dispensary	56.38
Feb.	15.	A. O. Abbott & Son, hardware	69.03
Feb.	15.	Jno. Schobert, dry goods	62.56
Feb.	15.	A. O. Abbott & Son, supplies .....	.50
Feb.	15.	A. O. Abbott & Son, K. and D. R. furniture.....	9.95
Feb.	15.	B. A. Morgan, supplies.....	58.20
Feb.	15.	Geo. J. Allen, clock.....	5.00
Feb.	15.	J. B. Simmons, bibles.....	4.30
Feb.	15.	D. O. Wilbur, furniture	20.00
Feb.	15.	M. F. Andrews, dry goods.....	82.05
May	10.	Sharp & Smith, electric battery	180.00
May	24.	D. O. Wilbur, furniture.....	67.25
Total.....			\$ 4,958.64

FIRE ESCAPE FUND.

RECEIPTS.

1895.

July	1.	To balance on hand last report.....	\$ 4 92
Oct.	23.	State warrant No 3316	75.00
Total.....			\$ 79.92

DISBURSEMENTS.

1896.

Feb.	8.	By refund to state treasury	\$ 79 92
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COAL HOUSE FUND.

1895.

July	1.	To balance on hand last report.....	\$ 2.97
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DISBURSEMENTS.

1896.

April	1.	By amount transferred to support fund.....	\$ 2 97
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SEWERAGE FUND.

1895.

July	1.	To balance on hand last report.....	\$ 794.45
Oct.	23.	To state warrant No. 3316	2,250.00
Total.....			\$ 3,044.45

DISBURSEMENTS.

1896.

Feb.	3.	By amount refund to state treasury	\$ 3,044 45
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ENTERTAINMENT FUND.

1895.

July	1.	To balance on hand last report	\$ 144 00
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DISBURSEMENTS.

Dec.	7.	Amount November disbursements ...	8.55
1896.			
Feb.	7.	Amount January disbursements	30 25
March	7.	Amount February disbursements	16 00
May	11.	Amount April disbursements	3.00
June	16.	Amount May disbursements.....	5.80
June	17.	Amount transferred to support fund.....	80 96
Total			\$ 144.00

CONTINGENT FUND.

RECEIPTS.

1896.				
July	1.	To balance on hand from last report.....	\$	265.25
Oct.	23.	Amount transferred from improvement of grounds.....		125.00
Oct.	23.	Amount transferred from new floor account.		150.00
1896.				
Oct.	27.	Amount of state warrant special appropriation.....		1,500.00
1897.				
March	11.	Amount of state warrant No. 13282, balance new floor account...		37.01
March	11.	Amount of state warrant No 13283, balance new boiler.....		98.00
March	11.	Amount of state warrant No. 13284, bal. attic dormitory acct....		31.37
March	11.	Amount of state warrant No. 13285, bal. new dynamo acct.....		63.00
Total			\$	2,209.63

DISBURSEMENTS.

1896.				
June	17.	By amount transferred to support fund.....	\$	540.25
1897.				
Feb.	27.	By amount transferred to new hospital fund		407.91
March	2.	By amount transferred to new hospital fund		82.25
July	1.	By balance on hand		1,239.31
Total			\$	2,269.72

PAINTING BUILDINGS FUND.

RECEIPTS.

1896.				
July	8.	State warrant No. 8935	\$	500.00
1897.				
Jan.	20.	Transfer from support fund.....		37.45
Total			\$	537.45

DISBURSEMENTS.

1896.				
July	16.	Dinges & Bigelow, on contract.	\$	435.00
July	16.	A. T. Birchard, committee work.....		5.00
August	18.	Times Republican, advertising for bids		19.50
Oct.	6.	B. A. Morgan, paint.....		45.72
Oct.	8.	J. B. Dunham, painting.....		9.25
Oct.	8.	Josiah Mullen, painting.....		19.50
Total			\$	534.97

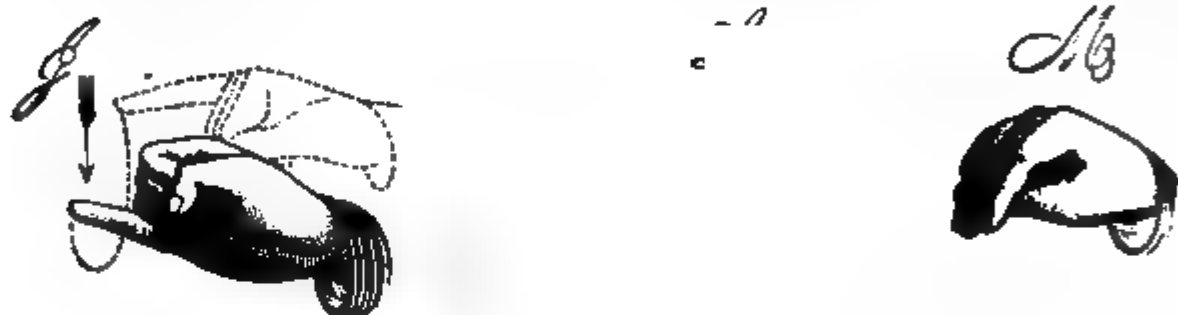
NEW FLOOR IN MAIN BUILDING FUND.

RECEIPTS.

1896.				
July	8.	State warrant No. 8932	\$	1,000.00

DISBURSEMENTS.

1896.				
June	29.	A. A. Moore, lumber	\$	1,314.22
June	30.	Labor, to sundry parties as per pay roll.....		141.00
July	10.	B. A. Morgan, oil and paints.....		29.30
July	20.	A. C. Abbott & Son, hardware.....		54.60
1897.				
Jan.	20.	A. A. Moore, lumber		22.72
Mar.	11.	Transferred to contingent fund.....		37.00
Total			\$	1,600.84



THE AMERICAN FINGER ALPHABET.

The one-hand alphabet is used exclusively in American schools for the deaf, and is the only one understood by the great majority of deaf mutes in this country. This alphabet can be learned in an hour. It has been learned by close application in ten minutes. It is recommended that the arm should be held in an easy position near the body with the forearm as indicated in the plates. It is not necessary to move the arm, but a short leverage is conducive to ease and is permissible, provided the hand delivers the letters steadily within an imaginary ring of say, ten inches in diameter.

Each letter should be mastered before leaving it. Speed will come with use; but should not be attempted or permitted until the forms of the letters and the appropriate positions of the hand are thoroughly familiar.

Certain letters, as c, d, i, j, k, l, m, n, o, q, u, v and z, resemble written or printed forms. J is simply traced in the air with the little finger, and z in like manner with the index finger. H, u and n differ only in the position of the hand, and t is formed as in "taking off baby's nose." These ten words contain all the letters; adz, fan, map, cow, box, jar, sky, hat, quill, glove. Practice upon each of these for five minutes.

Twenty-second Biennial Report

OF THE

IOWA SCHOOL FOR THE DEAF

COUNCIL BLUFFS,

TO THE

GOVERNOR OF THE STATE,

FOR THE

Biennial Period Ending June 30, 1897.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
F. B. CONAWAY, STATE PRINTER.
1898.

OFFICERS AND TEACHERS.

BOARD OF TRUSTEES.

HON. JOHN BEATTY STORY COUNTY.
HON. A. T. FLICKINGER POTTAWATTAMIE COUNTY.
HON. W. A. DELASHMUTT RINGGOLD COUNTY.

SECRETARY OF BOARD:
HON. A. T. FLICKINGER.

SUPERINTENDENT:
HENRY W. ROTHERT.

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J. J. KIES Boys' Supervisor
LENA SEYFERT Girls' Supervisor
MRS. MAMIE POOLE Small Boys' Supervisor
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W. S. MARSHALL.	MARY E. HOLDER.
HIRAM PHILLIPS.	CORA E. COE.
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PHYSICAL CULTURE.

DAVID RYAN, JR. Teacher

REPORT OF THE BOARD OF TRUSTEES.

To His Excellency, Francis M. Drake, Governor of Iowa:

SIR—As required by statute we, the undersigned, trustees for the Iowa School for the Deaf, respectfully submit our report for the biennial term, ending June 30, 1897.

At the last session of the legislature, the Hon. John Beatty, of Nevada, Story county, was re-elected for a term of six years, beginning May 1, 1896.

The board was reorganized May 1, 1896, by the election of W. A. DeLashmutt, president, and A. T. Flickinger, treasurer.

Owing to a change in the law enacted at the special session of the Twenty-sixth General Assembly, and in order to conform with the same, F. O. Gleason, of Council Bluffs, was elected treasurer, and Hon. A. T. Flickinger, of Council Bluffs, was elected secretary.

The period covered by our report has been a very successful one. The children have been healthy and we think have made good progress in their work, both in industrial and educational departments. For these satisfactory results we are indebted largely to the proficient management and watchful care of Hon. Henry W. Rothert, superintendent, and Mrs. Henry W. Rothert, the matron, assisted by the best efforts of the officers and employes of the institution.

The educational department is, as it has been for sometime past, under the direct supervision of Prof. G. L. Wyckoff, who has the assistance of a very able corps of teachers. We hereby desire to testify our appreciation of the services of officers, teachers and employes.

We are pleased to note the increased number of visitors to the institution, indicating, as we think, an increased interest of the people of the state. We gladly welcome all, feeling that each visitor becomes a friend.

The property of the state, both real and personal, is in as good condition as it is possible to keep it with the limited

means placed at our disposal. The special appropriations made by the last general assembly have been nearly all expended for the various purposes set forth, for which they were made, as will be seen by the report herewith submitted. The further needs of the institution are set forth at length in the report of the superintendent, to which your attention is respectfully directed.

Owing to a change in the manner of paying our quarterly allowance, and by special ruling of the Hon. C. G. McCarthy, auditor of state, the finances of the institution have been impaired to such extent that we are unable to meet the current bills promptly.

The board of trustees, depending upon the revenue as received for years past, and certainly not anticipating any charge or decrease in same, had at the proper time entered into contracts, made arrangements for supplies, fixed salaries and compensations for the entire biennial period.

The opinion of the honorable attorney-general, as given to the honorable auditor of state, and consequently governing that officer's actions, suddenly contracted the revenue as well as extended the time of receipt of such revenue three months, while prior to the promulgation of this opinion, a continuous period of thirty-four years, the revenue of the school was based upon the actual number of pupils present during the quarter, and paid for a quarter in advance, the revenues were ordered drawn upon the average number of pupils present, and paid for the quarter past, and since the first of January, 1897, this has been the method pursued, making a difference of \$6,000 to \$8,000 in the annual receipts. This has brought about a very unpleasant and burdensome state of affairs, as well as crippled the efficiency of the school.

We find ourselves in debt without any prospect of being able to meet our obligations for from three to six months. It is impossible to purchase supplies at prices commanded by prompt payments, but we are compelled to recognize the advance placed upon the value of goods as sold to the slow debtor or the long time purchaser. This is not only a discredit to the state, but a serious loss to the institution. The indebtedness at the end of the biennial period, thus accruing from a contraction of our revenue, amounts to \$8,000, and we deem it our duty to respectfully petition the honorable general assembly for relief.

By a special appropriation covering this amount, the Iowa School for the Deaf would be relieved of its distressing financial embarrassments, the creation of which is no fault whatever of the board of trustees, and place it upon an acceptable and proper footing with all other institutions of Iowa.

This institution has a special mission to perform, and in order to secure a correct impression and to arrive at a proper conclusion concerning the Iowa School for the Deaf and its needs, answers must first be obtained to the queries: What is it, and what is its mission? It is simply what its name implies, a school for the deaf, an educational institution of Iowa called into life and maintained for the benefit of those who are deaf and who cannot obtain an education in the public schools of the state. It is a branch, a part and parcel of our grand educational system of which we are so justly proud. It is neither an asylum, a hospital, or a place of refuge. Its pupils are entitled to the same fostering care as to their mental and physical development, as their more fortunate brothers and sisters.

Its mission is to impart such knowledge to its scholars as will provide for an honest citizenship. Its field of usefulness embraces the preparation for the active walks of life, so as to guarantee a self-supporting and independent existence. It is governed in a general way as are other schools, and is provided in the same manner with buildings, schoolrooms and apparatus.

It has its board of directors, its superintendent, its principal and teachers. It recognizes, as all schools do, the necessity of certain time for rest and recreation. Its vacation is similar in duration with the general average of the larger schools of the state. It cannot, therefore, be classed as to its management or as to its needs with the reformatory, penal, or charitable institutions of Iowa.

We recognize the principle that one generation owes to the succeeding one a fair, common education by our entire educational system, in which, without question, the deaf are included. They are as susceptible to mental development and have the same hopes, aspirations, and ambitions as the speaking and hearing children.

We therefore prepare the way for their future, just as we do for the future of the others. We do no more for the deaf than for the speaking, with but one exception—we board them at the institution without cost to themselves. This is not a matter of charity, but a matter of economy to the state. Recognizing

their rights, as above stated, if we divide the state into twenty deaf districts, which would certainly not be as liberal a division as we accord to the speaking, and placed them upon an absolute level with others without board, it would, with twenty different managements, cost the taxpayers of the state a much larger amount than at present. Just as in the graded schools it requires special teachers for special branches, so in this school it requires a special fitness on the part of officers and teachers to carry out the purposes for which this money is expended. It is better, wiser, and more economical, therefore, to gather these wards of the state under one roof, and intrust them to the care of one management.

As to the results, and whether or not the Iowa School for the Deaf conforms to its missions thus outlined, we beg to point with pardonable pride to the fact that it ranks with the older and more liberally endowed institutions of similar kind in the country. It has had a larger representation at the National College for the Deaf at Washington, D. C., provided and maintained by the general government, than any other school for the deaf in the United States. Its graduates are found scattered throughout Iowa, intelligent men and women earning their daily bread by handicrafts learned while here at school. Its percentage as to results of independent, intelligent citizenship is 95 per cent, far exceeding, perhaps, any estimates which can possibly be made by those uninformed.

It has been accorded a proportion of the revenues of the state, to which, in the judgment of general assemblies of the past, it is entitled, and the same placed in the hands of a board of trustees, for a beneficial, judicial and economical disbursement. Whether these instructions, absolutely proper in the expenditure of public moneys, have been honestly followed and whether the cost to the state for the maintenance of this school is in fair proportion to the results, can be ascertained from a detailed examination and from a comparison with other schools of similar kind in the country.

Begging to refer to a schedule of the annual cost per capita of twenty-six state institutions hereunto attached, taken from the printed report of the Illinois school marked Appendix "A," it is noticeable that while the average cost of these twenty-six institutions per capita per annum is \$259.36, Iowa ranks among the lowest with a per capita per annum of only \$208 24. It is a further satisfactory and gratifying fact that the cost per

capita per annum in the Iowa School for the Deaf has been gradually diminished in the last ten years, as demonstrated by the table of averages for ten years past, marked Exhibit "C."

These expenditures per annum were provided for by appropriations per annum, which, in the thirty-four years of the existence of this school, were drawn by authority of legislative enactment in quarterly installments. Prior to this time, and from the organization of the institution in 1855, annual appropriations were made drawn in gross amounts. At no time, from the beginning in 1855 to the first of January, 1897, a period of forty-two years, has this school received its revenue in less amounts than covered by annual appropriations, that is to say for the entire year. Although since 1862 this amount per year was drawn quarterly, yet never has there been any quarter questioned or omitted. The very life of the institution depended upon its annual appropriations. Dates of requisition, in month or quarter, have varied, owing to the condition of state treasury or convenience of officers, or necessities of the school, but never has the institution been deprived of its income for the entire year.

There is no quarter in the year in which our pupils are not present. Vacation months occur part in one quarter and part in another quarter, but never have these vacation months been recognized as a factor in decreasing the revenue of the school. This recess recognized, for obvious reasons, by every educational institution in the civilized world, is with us a time for recuperation and repairs. It is financially a resting-spell from the monthly expenditures for so large an institution, and the money saved by the children's absence accumulates only in an amount sufficient to make ends meet during the entire year. Without this saving the appropriations would necessarily have to be considerably increased, or the institution severely crippled in its efficiency.

That it was the intention of the general assemblies to recognize the vacation as a part of the school year is plainly set forth in chapter 152, section 2, acts of the Ninth General Assembly, 1862; see Appendix "C" defining the manner of drawing the current fund, viz., upon certificate furnished by the board of trustees, of the actual number present at the beginning of any one quarter, and should the beginning occur in vacation then of the actual number present at the beginning of the preceding quarter.

The next, or Tenth, General Assembly, 1864, changed the amounts of ordinary and current fund and directed that both funds should be drawn quarterly, whereas, heretofore the ordinary fund had been drawn in gross amounts; see section 8, chapter 54, acts of Tenth General Assembly; and having so directed, repealed chapter 152, acts of the Ninth General Assembly, including section 2 aforesaid.

The Eleventh General Assembly, 1866, following, made no change in the amounts or manner of drawing the funds.

The Twelfth General Assembly, 1868, changed the amount of ordinary fund, permitting amount of current fund to remain, as before, but in the direction as to the manner of drawing such funds added the words, "in the usual manner." The term, "in the usual manner," has been a part of the law governing statutory appropriations for this institution from the time of the first enactment, 1868, to the present time.

This institution has drawn in this "usual manner" from that time to this, and there can be no question that general assemblies, or the proper committees, when the matter of revenue was presented for their consideration, were in possession of all the facts, including the manner and basis of annual allowances, and this was a factor in changing the amounts of appropriation as the necessities of the school required. Eleven different general assemblies, from the year 1862 to 1884, inclusive, have considered and taken action on the revenue of the school, and being cognizant of all the facts have, re-enacting the term "in the usual manner," recognized the correctness of the past, including vacation months, and legally authorized the board of trustees to draw for every pupil actually present at the beginning of a quarter as the specific directions of the act of the general assembly contemplated. That it was the intention of the general assemblies to authorize an allowance for each pupil present in the quarter is further evidenced by the words, "or so much thereof as may be necessary," and adding thereto the words, "and then only in such amounts as the wants of the institution may require." See section 1696, code of Iowa. The only and proper construction to this phraseology is that the board of trustees was authorized to draw for each pupil present in the quarter, but only upon condition that the wants of the institution required the same.

The general assembly made an appropriation for the entire year based upon the number of all the pupils present, but

restricted the amount to "as much thereof as may be necessary."

Such has been the construction of the intent and purpose of the law by the eleven general assemblies referred to by all the honorable auditors of state since the organization of the school in 1855, and sanctioned by this construction were all the official acts of all the boards of trustees of the school since its organization to the present time; among the members of which were ex-Governor Carpenter, ex-Auditor of State Cattell, ex-Senators Schrader, Baldwin, Hebard, Teal and Ranck, and ex-Representative Clayton. Others have served the state as trustees of this institution for a longer period than one term, some only severing their connection after a service of eight, ten, twelve and fourteen years, and all of them have never doubted the correctness of their action based upon the above construction.

Furthermore, representatives of the executive department have in former times visited the institution, and carefully examined its receipts and disbursements, and have known and sanctioned this method and manner of drawing its revenue.

In addition to above, a principle governs, which is the well known rule that where the proper department has for a long series of years construed a statute governing it upon a particular subject, such construction becomes effective and legal by its very adoption and observance.

□ 1. Hereunto attached is a complete summary of all the acts of general assemblies referring to the annual revenue of the board, with a verbatim copy of each section: Exhibit "A."

2. Table of annual per capita cost of twenty six state institutions for the deaf: Exhibit "B."

3. Table of per capita cost per annum of the Iowa School for the Deaf for the last ten years: Exhibit "C."

4. Tabulated statement as to time and amount of current and ordinary fund, beginning April 8, 1862, when quarterly installments were authorized: Exhibit "D."

The board of trustees, after careful consideration of the needs of the school for the ensuing biennial period, would recommend the following appropriation:

SUMMARY.

Electric light.....	\$2,500
Fencing.....	500
Repair fund.....	2,000
Type and tools for industrial schools.....	500
Library.....	200
Ice pond.....	1,000
Water closets in industrial schools.....	500
Soap house and vats.....	300
Gas furnace and gas house.....	500

W. A. DE LASHMUTT, }
 JOHN BEATTY, } *Trustees.*
 A. T. FLICKINGER }

EXHIBIT "A."

Commencing at and referring to chapter 152, page 175, acts of the Ninth General Assembly (1862).

An appropriation to meet the ordinary expenses of \$3,000 per annum, and an appropriation to meet the current expenses, \$25 per quarter for each pupil in said institution, including the vacation quarter.

Section 1. Be it enacted by the general assembly of the state of Iowa: That to meet the ordinary expenses of the deaf and dumb and blind asylums, institutions for the education of mutes and the blind, including rents, furniture, books, maps, charts, music and musical instruments, and the compensation of the principal, matron and teachers of such institutions, there is hereby appropriated from the state treasury the sum of \$3,000 per annum to each of said institutions, or so much thereof as may be necessary.

Section 5. For the purpose of meeting the current expenses, there is hereby appropriated out of the state treasury, \$25 dollars per quarter for each pupil in said institutions, or so much thereof as may be necessary; provided, however, that the board of trustees shall, at the beginning of each quarter, when the school is in session, transmit to the auditor of state their order on said auditor, a certificate of the actual number of pupils present at the beginning of said quarter, and should the beginning *occur in vacation*, the actual number the preceding quarter, and upon this certificate the Auditor shall issue thereon warrants according to the order of the board of trustees.

Referring to chapter 54, page 57, acts of the Tenth General Assembly (1864).

To meet the ordinary expenses, appropriation \$4,000.

To meet the current expenses, \$30 per quarter for each pupil.

Section 1. Be it enacted by the general assembly of the state of Iowa: That to meet the ordinary expenses of the institution for the education of the blind and deaf and dumb, including furniture, books, maps, music, musical instruments, and the compensation of the principals, matrons, teachers and employes of such institutions, there is hereby appropriated the sum of \$4,000 per annum to each of said institutions, or so much thereof as may be necessary.

Section 5. For the purpose of meeting current expenses there is hereby appropriated out of the state treasury, \$30 per quarter for each pupil in each of said institutions.

Section 8, inserted below, designates the manner of drawing aforesaid appropriations:

Section 8. The above appropriations shall be drawn quarterly on the order of the trustees of the institutions, made on the auditor of state, who shall draw his warrant in the name of such institutions, on the treasurer as ordered by the trustees.

Referring to chapter 136, page 146, acts of the Eleventh General Assembly (1866).

No change of former provisions was made.

Referring to chapter 106, page 146, acts of the Twelfth General Assembly (1868).

Appropriation to meet ordinary expenses, \$5,000 per annum.

Appropriation to meet current expenses, \$30 per quarter.

Section 1. Be it enacted by the general assembly of the state of Iowa: That to meet the ordinary expenses of the institution for the education of the deaf and dumb, including furniture, books, school apparatus, and the compensation of officers and teachers, there is hereby appropriated the sum of \$5,000 per annum, or so much thereof as may be necessary.

Section 4. For the purpose of meeting current expenses, there is hereby appropriated the sum of \$30 per quarter for each pupil in said institution.

Section 7, inserted below, directs how appropriations shall be drawn and in the usual manner.

Section 7. The above mentioned appropriations, including the accounts for clothing aforesaid, shall be drawn quarterly on the requisition of the board of trustees of the institution in the usual manner.

Referring to chapter 78, page 79, acts of the Thirteenth General Assembly (1870).

Appropriation to meet ordinary expenses, \$8,000.

Appropriation to meet current expenses remained as before.

Section 4. To meet the ordinary expenses of the institution, including furniture, books, school apparatus, and compensation of officers and teachers, there is hereby appropriated the sum of \$8,000 per annum, or so much thereof as may be necessary.

Referring to chapter 75, page 13, acts of the Fourteenth General Assembly (1872).

To meet the ordinary and current expenses.

Appropriation \$12,000 per annum and \$40 per quarter,

Section 2. To meet the ordinary and current expenses of the institutions, including salaries to officers and teachers, wages to laborers (male and female), repairs, etc., there is hereby appropriated the sum of \$12,000 per annum; and, in addition thereto, \$40 per quarter for each pupil.

Referring to code, 1873, page 313, section 1692.

Appropriation to meet current expenses, \$40 per quarter. Section 1693, to meet ordinary expenses, \$12,000 per annum.

Section 1692. For the purpose of meeting current expenses, there is hereby appropriated the sum of \$40 per quarter for each pupil in said institution.

Section 1693. To meet the ordinary expenses of the institution, including furniture, books, school apparatus, and compensation of officers and teachers, there is hereby appropriated the sum of \$12,000 per annum, or so much thereof as may be necessary, which may be drawn quarterly in such sums as the necessities of the institution may require.

Section 1696 directs how appropriations shall be drawn, retaining the words "in the usual manner," and adding thereto the words "and then only in such amounts as the wants of the institution may require."

Section 1696. The above mentioned appropriation, including the accounts for clothing aforesaid, shall be drawn quarterly, on the requisition of the board of trustees of the institution in the usual manner, and then only in such amounts as the wants of the institution may require.

Referring to acts of the Fifteenth General Assembly (1874), no change in above provisions was made.

Referring to the acts of the Sixteenth General Assembly (1876), no change in above provisions was made.

Referring to chapter 98, page 88, acts of the Seventeenth General Assembly (1878).

Appropriation of \$40 to meet current expenses was stricken out and \$30 inserted.

In appropriation to meet ordinary expenses "twelve" was stricken out and "eight" inserted.

Section 1. That section 1692 of the code be and the same is hereby amended by striking out the word "forty," in the second line of said section, and inserting the word "thirty" in lieu thereof.

Section 2. That section 1693 of the code be and the same is hereby amended by striking out the word "twelve," in the fourth line of said section, and inserting the word "eight" in lieu thereof.

Referring to chapter 203, page 201, acts Eighteenth General Assembly (1880).

Appropriations to meet current enxpenses, "thirty" was stricken out and "twenty-eight" inserted.

To meet ordinary expenses, "eight" was stricken out and "eleven" inserted.

Section 1. Be it enacted by the general assembly of the state of Iowa That chapter 98, laws of the Seventeenth General Assembly, be and the same is hereby amended by striking out the word "thirty" in the third line of section 1, and inserting in lieu thereof the word "twenty-eight;" and also, by striking out the word "eight," in the third line of section 2, and inserting the word "eleven" in lieu thereof.

Referring to chapter 105, page 101, acts Nineteeth General Assembly (1882).

Appropriations to meet current expenses, "twenty-eight" was stricken out and "thirty-five inserted."

To meet the ordinary expenses, "eleven" was stricken out and "sixteen" inserted.

Section 1. Be it enacted by the general assembly of the state of Iowa: That chapter 203, laws of the Eighteenth General Assembly, be and the same is hereby amended by striking out the word "twenty-eight," in the fourth line of section 1, and inserting in lieu thereof the word "thirty-five," the same to commence and have effect from the quarter commencing January 1, 1882; and also, by striking out the word "eleven," in the sixth line thereof, and inserting the word "sixteen" in lieu thereof.

Referring to chapter 73, page 82, acts Twentieth General Assembly (1884).

Appropriations to meet current expenses was unchanged.

Appropriations to meet ordinary expenses, "sixteen" was stricken out and "twenty-one" inserted.

Section 1. Be it enacted by the general assembly of the state of Iowa: That chapter 105, laws of the Nineteenth General Assembly, be and the same is hereby amended by striking out the word "sixteen," in the seventh and eighth lines of section 1, and inserting the word "twenty-one" in lieu thereof

The above is the last change made and is the law at the present day.

EXHIBIT "B."

Table of annual per capita cost of twenty-six institutions for the deaf.

Colorado.....	\$ 377.65	North Dakota.....	\$ 214.58
New Jersey	344.88	Kentucky	208.88
American, Hartford, Ct	300.16	Wisconsin.....	208.75
Rhode Island.. ..	293.85	Iowa.....	208.24
Massachusetts	290.60	Indiana	207.28
New York (8 institutions, average) .	287.32	Texas ..	204.00
California	282.31	Maryland.....	202.74
Pennsylvania (eastern).....	281.28	Michigan.....	186.51
Ohio.. ..	248.00	Illinois.....	181.00
Pennsylvania (western).....	244.23		
Average of these institutions, including Iowa.			\$ 259.30
Average of Iowa, as above.....			208.24

EXHIBIT "C."

Average per capita per annum, 10 years.

YEARS.	AVERAGE.	YEARS.	AVERAGE.
For the year 1887.....	\$ 220.75	For the year 1893.....	\$ 220.88
For the year 1888.....	220.44	For the year 1894.....	210.01
For the year 1889.....	212.96	For the year 1895.....	209.54
For the year 1890.....	219.25	For the year 1896.....	208.24
For the year 1891.....	219.62		
For the year 1892.....	218.10	Total	\$2,159.29
Average for 10 years.....			215.92

EXHIBIT "D."

Action of general assemblies as to appropriations.

DATE STATUTE OPERATIVE.		AMOUNT OF APPROPRIATION.	
FROM.	TO.	CURRENT.	ORDINARY.
April 8, 1862	March 30, 1864.....	\$25 per quarter.	\$ 3,000
March 30, 1864	April 19, 1868	30 per quarter..	4,000
April 19, 1868	July 4, 1870	30 per quarter.....	5,000
July 4, 1870	April 21, 1872	30 per quarter.....	3,000
April 21, 1872	July 4, 1873	40 per quarter.....	12,000
July 4, 1873	July 4, 1878	40 per quarter.....	12,000
July 4, 1878	April 9, 1880	30 per quarter.....	8,000
April 9, 1880	Jan. 1, 1882	28 per quarter.....	.....
April 9, 1880	March 23, 1882 .....	.....	11,000
Jan. 1, 1882	to present time.....	35 per quarter.....	.....
March 23, 1882	March 29, 1884 .....	.....	18,000
March 29, 1884	to present time.....	.....	21,000

REPORT OF SUPERINTENDENT.

SUPERINTENDENT'S REPORT.

To His Excellency, Gov. F. M. Drake:

The close of another biennial period in the existence of the Iowa School for the Deaf, necessitates the recognition of requirements of laws governing this institution, and I therefore beg to present my report for the term commencing July 1, 1895, and ending June 30, 1897, both dates inclusive. The conditions surrounding the school up to January 1st of the present year, have been favorable to an acceptable performance of its mission in behalf of the deaf children of the state. Unfortunately, however, owing to a new construction placed upon the statute governing its financial support, its revenues were decreased and its bright future of usefulness somewhat clouded, the effect of which will become apparent during the next term of school.

The progress made in the several and various departments for the term has been equal to that of preceding years.

The general health has been all that could be desired, the attendance of pupils regular, the mental advancement and the practical acquirements noticeable with each and every scholar. Consequent upon these gratifying facts we note the happiness and contentment of our children and the approval and satisfaction of their parents. An honest, earnest devotion to the duty of carrying out, under the direction of the honorable board of trustees, the purposes for which this institution is maintained, prompts the reference to those needs and necessities which are strikingly apparent by a close acquaintanceship and by daily experience.

ELECTRIC LIGHT.

The time has passed when this method of illumination can be considered an experimental one. Our plant was among the first placed in institutions, and consequently is wanting in those special features of permanency, security, and efficiency, which later developments and improvements have created and established. In many places our wiring is imperfect, our lamps are old, our dynamo is of an ancient pattern, and our engine liable to become useless at any time, especially so as the same has never been equal to its original power after the fire several years ago. An appropriation of \$2,500 is urgently needed to better and improve this service.

FENCING.

The partition fences, as well as those bordering the three highways on the west, east and north of our grounds, should be replaced.

An unsightly, dilapidated fence is not a mark of good husbandship and for the credit of the state, as well as for the protection of its property, an appropriation of \$500 for this purpose is called for.

REPAIR FUND.

It would be impossible to retain our buildings in inhabitable as well as presentable shape, unless an annual appropriation be allowed to make such betterments and repairs as are absolutely necessary. Some of our buildings have been erected twenty years and the natural wear and decay must be replaced. All of the thirteen buildings, situated on different parts of the grounds, need attention, both interior and exterior.

With a population of 300 or more children, not educated as yet as to values, it is no difficult task to account for the damage and destruction of property, while the exteriors of several buildings necessarily undergo the changes incident to the atmosphere and the weather. An appropriation of \$4,000, or \$2,000 annually, would not be above the needs.

TYPE AND TOOLS FOR INDUSTRIAL SCHOOL.

It will be necessary to purchase new type for our printing office, as well as additional tools for shoe and carpenter shop.

These departments where the pupil may acquire a handicraft, by the exercise of which in after life he can maintain an independent existence, deserve our fostering care and support. An appropriation of \$500 is respectfully asked for the purpose above mentioned.

LIBRARY.

The increasing publication of juvenile books, the replacing of old, worn-out volumes, the incalculable benefit to our pupils of additional reading matter, all warrant the request for an appropriation of \$200 to be expended in extending and increasing the facilities of library and reading room.

ICE POND.

The necessities, together with the peculiar advantages for this improvement, were set forth in our last biennial report.

The appropriation then asked for was committed, and we beg to renew the request, being convinced that the improvement if made would return to the state in a few years the original cost and in addition thereto furnish pure, wholesome ice for many seasons to come.

While estimates made reach the sum of \$1,500 it is the opinion that \$1,000 would cover the expense. This matter being not only of great importance, but also a matter of eventual economy, a careful consideration of same is respectfully requested.

GAS FURNACE AND GAS HOUSE.

It is not economy to continue the electric light during the entire night, as it would entail the salary of an assistant engineer and the additional expense of the fuel. We have, therefore, utilized our old gas furnace in order that part of the buildings should not be in total darkness. The hall and passage-ways, water-closets, and ingress and egress to and from the dormitories are provided with gas, which, in the case of accident or fire, is indispensably necessary.

The gas house and furnace have been in service so long that they are in a dilapidated and unserviceable condition.

This is one of the most important necessities to be considered, and we respectfully ask for an appropriation of \$500 for this purpose.

WATER-CLOSET FOR INDUSTRIAL SCHOOL BUILDING.

Owing to the want of funds at the time these buildings were erected the above necessary addition to same was not completed.

The industrial schools are occupied daily during the week by near one hundred pupils, and the necessity for this improvement is consequently an urgent and accepted fact.

The addition should be built of brick and carried to the second floor, including in the space a wash room for either story.

Upon estimates made the cost of this improvement, with sewerage, will reach \$500, for which an appropriation is asked.

SOAP HOUSE AND VATS.

Proper and economical management would imply utilizing whatever can be converted into material, which, when so converted, will take the place of supplies bought in the market.

The large consumption of soap and the consequent large expenditure for same can be materially decreased by a product produced with conveniences and apparatus furnished by a soap house and vats.

The expenditure for same will not be a permanent outlay to the state, but return in a short period of time more than the cost. An appropriation of \$300 will cover all the requirements for this economical addition.

THE TRANS-MISSISSIPPI AND INTERNATIONAL EXHIBITION.

This enterprise, now fully established and which, from assurances received by its management, is to be without question a complete success, will open in the city of Omaha June 1, 1898, and continue for five months next following. Situated as this institution is, within easy reach of the large number of visitors to this exhibition, we shall be placed in the position of a representative state institution of Iowa and compelled to entertain, as far as may be, each and every stranger who may be prompted by a desire to become acquainted with Iowa and Iowa institutions.

This will entail considerable expense, inasmuch as additional help will be necessary, the corps of officers retained during vacation and the building and grounds kept in special fitness for inspection. In other words, while the exhibition is held in Omaha and beyond the state line, yet this institution being so near the border will be on exhibition for the same period of time. The credit of the institution and the pride of Iowa is involved and we beg to submit that, in some way, the necessary provisions be made to carry out the above suggestion. Whether this be done under the direction of the honorable commission of Iowa, or a special appropriation of \$1,000 (or so much thereof as may be necessary) be made, is a matter for the honorable general assembly to determine.

CONCLUSION.

I submit hereunto attached a financial statement of receipts and expenditures and a list of all pupils attending school with name, sex, age, residence, place of nativity, and cause of deafness, so far as the latter can be ascertained. I also add the course of study and a list of trades taught as required by law. It would be unbecoming in me did I not thus publicly recognize in my report to the governor of the state the helpful mandatory authority of the honorable board of trustees, whose official direction never extended beyond the circle

"for the children's good," and whose authority was ever and only exercised by earnest prompting for the betterment and improvement of the entire school. And now permit me to emphasize a part of a former report in saying "I sincerely trust that the record of the past two years, and the suggestions herein made, will secure your approving consideration, and at the hands of the incoming general assembly." "The children of silence" of Iowa may be continued to be recognized by that generous fostering care which has built up an educational institution of the state of which every citizen is so justly proud, so that the time may not be far distant when the Iowa School for the Deaf may be second to none and equal to the best in the land.

Respectfully submitted,

HENRY W. ROTHERT,
Superintendent.

OFFICERS AND TEACHERS.

The following is a list of officers and teachers at the end of the biennial period, with salaries paid each:

	PER ANNUM.
Henry W. Rothert, superintendent, resident	\$ 2,250.00
(No assistant or steward.)	
G. L. Wyckoff, principal, nonresident	1,700.00
O. Spruit, teacher, nonresident	1,300.00
W. S. Marshall, teacher, nonresident.....	1,300.00
Hiram Phillips, teacher, resident	1,200.00
Frank Holloway, teacher, nonresident.....	1,200.00
O. S. Zorbaugh, teacher, nonresident.. ..	1,000.00
B. T. Bensted, teacher, nonresident	1,000.00
John W. Barrett, teacher, nonresident	800.00
Florence Wilcoxson, teacher, resident	600.00
Margaret Hamilton, teacher, resident.....	600.00
Margaret Watkins, teacher, resident.	600.00
E. J. Israel, teacher, resident.	550.00
Mary E. Holder, teacher, resident.	550.00
Cora E. Coe, teacher, resident.	550.00
David Ryan, Jr., teacher, resident	500.00
Lizzie E. Fuller, teacher, resident.	400.00
H. E. Thompson, teacher, resident	300.00
Edith Wyckoff, teacher, resident.....	300.00
Laura MacDill, teacher, resident.. ..	250.00
Mrs. Henry W. Rothert, matron, resident.....	750.00
(No assistant or housekeeper.)	

	PER MONTH.
Mrs. C. Spruit, teacher, nonresident	\$ 35.00
John F. Schultz, bookkeeper, nonresident.....	50.00
J. J. Kies, boys' supervisor, resident.	60.00
Lena Seyfert, girls' supervisor, resident.....	25.00
Mrs. Mamie Poole, small boys' supervisor, resident.....	30.00
Mrs. M. E. Brown, nurse, resident.....	30.00
F. W. Balluff, engineer, nonresident	85.00
Charles H. Gilbert, carpenter shop, nonresident.....	70.00
Z. B. Thompson, printing office, nonresident	60.00
L. W. Pound, shoe shop, nonresident.....	60.00
Fred Auwerter, bakery, nonresident	50.00
Peter Nelson, gardener, resident	45.00
Mrs. J. W. Wherry, cooking school, resident.	35.00
Miss Sarah McMeen, sewing department, resident.....	30.00
Selma Seyfert, ironing-room, resident.....	15.50

INDUSTRIAL DEPARTMENT.

TRADES TAUGHT.

Attention is paid to the following practical education of the pupils:

BOYS.

Printing.
Carpentering.
Shoemaking.
Broom Making.
Baking.
General Farming.
Flower Gardening.
Vegetable Gardening.

GIRLS.

General Housework.
Plain Sewing.
Embroidery.
Dress Making.
Ironing.
Cooking.

EDUCATIONAL DEPARTMENT.

COURSE OF STUDY.

FIRST GRADE.

Language.—Names of objects in the schoolroom; names of members of the class; articles of household and kitchen furniture; articles of dress; parts of the body; days of the week; and names of all things with which the pupils are presumably familiar may be taught. The article the is to be used before nouns in all cases where an article is demanded. Both singular and plural forms of nouns are to be taught. All personal pronouns except the reflexives. The adjectives of number to ten, and simple adjectives of kind and quality, such as good, bad, rude, hot, cold, sick, well, as part of the copula. The prepositions on, into, of, from, off, to and with. Verbs describing single actions in the past tense; the verb to be in past and present tense; a few verbs expressing emotions in the present tense; questions: Who? Where?

Let the greater part of the instructions be by topics, selecting only those with which the pupil is presumably familiar, as cooking, sewing, baking, washing, etc. Pay particular attention to sequence of events.

No text-books.

SECOND GRADE.

Language.—Nouns, names of things seen or used in the ordinary work of the school, kitchen and dining room, farm, barn and garden, with the verbs, adjectives and other parts of speech necessary in describing, in simple sentences, all of the operations of the same, the future tense, the words told, asked

and said followed by a quotation, the infinitives of purpose, the indefinite numerals, such as some, many, several. Avoid the use of the habitual present tense and teach the actual present of a few verbs that do not form the actual present with *ing*.

Continue instructions by topics, as in first grade. Questions, the direct form: Whom? How many? Which? When?

Arithmetic.—All the fundamental operations with numbers below twenty, using actual quantities. Avoid all abstract numbers.

No text-books.

THIRD GRADE.

Language.—Trades and occupations, operations, tools and products of the same. All tenses of the verb, except the past and future perfect, comparison of adjectives, adverbial phrases of time, as last night, next week, etc. Infinitive as object of the verb; the reflective pronouns. Journal. Question.

Arithmetic.—The same as second grade, with large numbers. Drill with figures.

Geography.—Local, with direction and distance. Map of schoolroom and surroundings.

No text-books.

FOURTH GRADE.

Language.—Trades and occupations continued, collective nouns, the infinitive after make, let, help, see; the potential mood, with may, must and can; also negatives. The conjunctions, either—or, neither nor, both—and, whether—or. Drill in infinitives. The words somebody, nobody, anybody, and comparison of adjectives. Journal and picture descriptions. Questions requiring the passive voice in answer.

Arithmetic.—Mental and practical problems; notation and numeration, complete; United States money, complete.

Geography.—State, with special reference to lines of travel. Use sand-board.

No text-books.

FIFTH GRADE.

Language.—Special drill in use of auxiliary verbs, the passive voice, the present and perfect participle. The potential mood, complete; comparison of adjectives; natural history; stories. Journal.

Arithmetic.—Practical problems and drill exercises. Compound numbers begun.

Geography.—Exercises upon outline maps; descriptive lessons of principal countries.

History.—Stories by teacher.

No text-books.

SIXTH GRADE.

Language.—Special drill upon the connectives, the relative pronouns and the subjunctive mood. Narrative and descriptive composition. Journal.

Arithmetic.—Practical problems and drill exercises. Compound numbers continued.

Geography.—From maps and descriptive lessons prepared by teacher. Map drawing.

U. S. History.—Lessons prepared by teacher.

SEVENTH GRADE.

Language.—Special drill upon moods and tenses, participle and infinite constructions. Analysis of simple sentences by diagrams. Sentence building.

Text-book—Swinton's Language Primer.

Arithmetic.—Fractions completed.

Geography.—Completed. Text-book—The Electric.

U. S. History.—Colonial Period Completed.

EIGHTH GRADE.

Language.—Composition, new words and idioms; thorough review of connectives, tenses and participles. Analysis by diagram of all the complex sentences. Text-book—Swinton's Language Lessons.

Arithmetic.—Practical problems. Text-book—Felter's Intermediate.

U. S. History.—Swinton's Condensed completed.

Physical Geography.—Lessons prepared by teacher.

NINTH GRADE.

Language.—Composition; idioms; Construction Exercises, including expansion and contraction of sentences; Analysis and parsing from diagrammed sentences; original sentences, illustrating classification and use; drill in using elements of the sentence. Text-book—Swinton's Language Lessons.

Arithmetic.—Percentage and interest. Text-book—Felter's Advanced.

Physical Geography.—Warren's Completed.

History.—Text-book—Thalheimer's.

Civil Government.—Weekly lectures by teacher.

TENTH GRADE.

Language.—Swinton's Grammar, Kerl's Rhetoric. Idioms and punctuation.

Arithmetic.—Felter's Advanced Completed.

REPORT OF THE PRINCIPAL.

REPORT OF THE PRINCIPAL.

To the Board of Trustees:

GENTLEMEN--The close of another biennial period brings with it the necessity for a formal review of the work done in that time. That we may know whether we have progressed or retrograded we must keep clearly in mind the end to be sought; the task to be accomplished. This, in short, is to bring about the greatest possible development of intelligence, character, and power in the children under our charge. That the task may be properly appreciated, we must first consider the condition of the deaf without education. Properly speaking, the education of every living human being begins at birth and is only continued upon his entrance to a school. Before that event takes place he has almost unconsciously learned thousands of things that it will be necessary for him to know as he goes through life. Some of these are the result of his own observation and experience, but by far the greater part comes from association and communication with others, older and wiser than himself. He learns at his mother's knee to lisp and comprehend language, and through that door comes down to him, without effort on his part, the accumulated wisdom of the ages gone before. Man without language, with spoken articulate language, is but a beast of the field, capable, it may be, of some of the simpler processes of thought, but tied to earth with a chain so gross that he can not hope to escape therefrom. Language is not merely a means of communication; it is a great disciplinary force acting and reacting upon the mind, and it follows as a matter of course that a deaf child, never having had language must lack the mental development that comes with its acquisition. Hence, our children, though they come to us with the same natural vigor of mind that other children possess, yet in actual standing are far below them, both in information and mental activity. Educational methods applicable to children who have only to learn to read and write a language that they already know are entirely out of place with those who have no language at all. All development must be founded upon what has gone before. So in the case of the deaf child we must begin with individual instruction in language. It will readily be seen that the nearer we can come to furnishing a teacher for each pupil the nearer we shall be to an ideal arrangement; and it will also be apparent that classes of the size usual in public schools are not possible. Classes must be small, and they must be provided with teachers of skill and experience in the instruction of the deaf. These teachers must not only possess the ordinary qualifications but must, in addition thereto, have a special training. Persons possessing this special knowledge of the deaf are not numerous, so that a vacancy in our corps of

teachers is not easy to fill. It is, therefore, manifestly the part of good policy to do all that may reasonably be done to retain the services of all teachers who have given satisfactory service. The work of a teacher in a school of this kind is exacting and in many cases harassing. Therefore it cannot be expected that the compensation usually granted in public school work should be sufficient to retain the best talent in this more difficult and exacting field.

Many people, considering the roll of teachers employed and the number of pupils in attendance at this school, are inclined to think that we have an unnecessary number of instructors. The American Annals of the Deaf for January last has a statistical report from every school for the deaf in the United States and Canada, giving the number of pupils in attendance and the whole number of instructors employed in each. Of these eighty-nine schools, fifty-one have more than fifty pupils. Omitting those having less than fifty, I find that not one of the whole number has so many pupils to the teacher as we are compelled to assign in this school. I am sorry to be compelled to state this fact, for as we cannot claim more skill and energy than the teachers of the deaf in other states, it must be evident that we cannot accomplish such results as should be produced.

The deaf population of the state of proper school age may be taken as a constant quantity bearing an unvarying ratio to the whole population. As the growth of population goes on there will certainly be a corresponding increase in the number of children asking instruction at our hands, and in this connection I wish to call attention to the fact that, though, as I have shown our classes are all over-crowded, all of the rooms in the schoolhouse are now fully occupied. We must have more room soon. We cannot well have more teachers until we have some place to put them, and the situation is one of constantly increasing stress.

The law governing this school says that all children of "suitable age" shall be entitled to admission. This "suitable age" has been construed as permitting, if not demanding, the admission of children at the age of five. This construction may be correct, but in many instances it works a positive injury to children of tender years. The only valid excuse that can be offered for taking a child from its home life and out from under the influence of a mother's love is that he will be benefited thereby. In the great majority of cases, deaf children under 7 years of age make very little progress in school. They are incapable of that sustained attention necessary, and they consequently acquire habits of idleness hard to overcome when age has brought increased strength of mind and will. Being removed from home influence at such a tender age, they become weaned from home ties, the effect of which is very apt to be disastrous in after-life. I think that no child who has a home should be admitted to this school under 7 years of age.

The course of study, as outlined in former reports, has remained without material change. Some minor modifications have been made, and an effort put forth to do more in the way of oral teaching than has been done in previous years, but these efforts have been sadly hampered by the great number of pupils necessary to assign to each teacher. It is well known that classes instructed orally must be smaller than those taught by manual methods. Hence every increase in the number of pupils without a corresponding increase in the teaching corps forces us into the use of signs as the only method by

which something like effective work can be done with such great numbers. There is an imperative demand on the part of parents for oral instruction of their children. This demand is not always according to wisdom, but it cannot be ignored, and is usually justifiable to the extent that a thorough and patient trial should be made of every child to test his capacity for speech acquirement. This we have not been able to give in all cases. Not every child can learn to speak sufficiently well to justify continued oral instruction all through his school life, but I hold that we should have the opportunity to demonstrate his aptness in that direction, and if we fail to give that opportunity we have fallen short of our whole duty. Respectfully submitted,

G. L. WYCKOFF,
Principal.

LIST OF PUPILS

In attendance in the biennial period ending June 30, 1897.

MALES.

NAME.	POSTOFFICE.	COUNTY.	AGE.	NATIVITY.	CAUSE OF DEAFNESS.
Aason, Hans	Sioux City	Woodbury	17	Norway	Sickness.
Arch, Ransom	Scranton	Greene	10	Iowa	La grippe.
Bally, George	Sac City	Sac	20	Iowa	Cerebral meningitis.
Baldridge, Milton	Batavia	Jefferson	17	Iowa	Diphtheria.
Barnes, Jesse	Eddyville	Wapello	20	Iowa	Spinal fever.
Barrett, Willie	Council Bluffs	Pottawattamie	23	Iowa	Lightning.
Beans, Glende O.	Omaha	Clinton	15	Iowa	Unknown.
Betty, William	Nevada	Story	24	Iowa	Unknown.
Benda, Frank	North Buena Vista	Olney	16	Bohemia	Measles.
Bentley, Walter	Manly	Worth	16	Minnesota	Unknown.
Bishop, Mark	Perry	Dallas	6	Iowa	Unknown.
Blake, John	Uhurda	Greene	16	Iowa	Sickness.
Blanchard, O. H.	Prescott	Adams	9	Iowa	Unknown.
Blaney, Clinton	Olin	Jones	14	Iowa	Born deaf.
Boody, Charles	Bubbard	Hardin	17	Iowa	Spinal fever.
Boyd, Herbert	Knox	Fremont	8	Nebraska	Spinal meningitis.
Brown, Samuel N.	.....	Cedar	16	Iowa	Scarlet fever.
Brown, Barney	.....	Wayne	18	Missouri	Brain fever.
Brown, Robert	.....	Pottawattamie	19	Iowa	Unknown.
Bryan, Harry Glenn	.....	Pottawattamie	10	Iowa	Sickness.
Buck, August	.....	Pottawattamie	19	Russia	Congenital.
Buell, Horace	Burlington	Des Moines	17	Iowa	Born deaf.
Butcher, James	Onawa	Monona	18	Missouri	Born deaf.
Buttenhoff, Henry	Dows	Wright	12	Iowa	Born deaf.
Buttenhoff, Otto	Down	Wright	10	Iowa	Born deaf.
Byrne, Bernerme	Sheffield	Franklin	14	Iowa	Born deaf.
Capp, Joseph	Fort Atkinson	Winnebago	17	Iowa	Sickness.
Carpenter, Ralph	Marion	Linn	7	Iowa	Sickness.
Clark, George	Des Moines	Polk	12	Iowa	Born deaf.
Cleveland, Edwin	Buffalo Center	Winnebago	16	Iowa	Brain fever.
Clinous, Albert	Clare	Webster	20	Iowa	Born deaf.
Cochran, Willie	Chancellor Bluffs	Pottawattamie	20	Iowa	Spinal meningitis.
Cochran, Jacob	Des Moines	Polk	18	Iowa	Spinal meningitis.
Clement, Andrew	.....	Audubon	18	Iowa	Born deaf.

Otter, John.	Winter.	Madison.	Iowa.	Sickness.
Oramner, Willie.	Boone.	Boone.	England.	Born deaf.
Oppa, Harry.	Olermont.	Fayette.	Iowa.	Meningitis.
Ortula, Fred.	Doon.	Lyon.	Iowa.	Spinal fever.
Dally, James.	Long Tree.	Johnson.	Iowa.	Spinal disease.
Dennistown, Frank E.	Jenup.	Buchanan.	Iowa.	Born deaf.
	Pitzer.	Madison.	Iowa.	Spinal fever.
	Boone.	Boone.	Iowa.	Spinal fever.
	Grane Creek.	Black Hawk.	Iowa.	Unknown.
	Miles.	Jackson.	Iowa.	Congenital.
	De Boto.	Dallas.	Iowa.	Congenital.
	Valeria.	Jasper.	Iowa.	Scarlet fever.
	Forest City.	Winnabago.	Iowa.	Born deaf.
	Elgin.	Fayette.	Switzerland.	Diseased milk.
	Norwalk.	Warren.	Kansas.	Earache.
	Sioux Center.	Sioux.	Dakota.	Born deaf.
	Nichols.	Muscadine.	Iowa.	Sickness.
	Marshalltown.	Marshall.	Iowa.	Brain fever.
	Ottumwa.	Wapello.	Iowa.	Born deaf.
	Brough.	Dallas.	Ohio.	Sickness.
	Keosauqua.	Van Buren.	Iowa.	Fever.
	Guttenburg.	Clayton.	Iowa.	Spinal fever.
	Maquoketa.	Jackson.	Iowa.	Brain fever.
	Bellevue.	Louisa.	Iowa.	Spinal meningitis.
	Columbus City.	Mahaska.	Iowa.	Born deaf.
	Muchakinock.	Story.	Virginia.	From a fall.
	Zeoring.	Harrison.	Illinois.	Typoid fever.
	Dunlap.	O'Brien.	Iowa.	Sickness.
	Melvin.	Woodbury.	Iowa.	Born deaf.
	Sioux City.	Pottawattamie.	Wisconsin.	Scarlet fever.
	Council Bluffs.	Webster.	Iowa.	Sickness.
	Fort Dodge.	Polk.	Iowa.	Spinal meningitis.
	Des Moines.	Wapello.	Missouri.	Spinal meningitis.
	Bladenburg.	Benton.	Iowa.	Scarlet fever.
	Luzerne.	Tama.	Iowa.	Scarletina.
	Gladbrook.	Delaware.	Iowa.	Unknown.
	Delaware.	Fayette.	Germany.	Born deaf.
	West Union.	Fremont.	Iowa.	Sickness.
	Thurman.	Calhoun.	Iowa.	Born deaf.
	Lake City.	Taylor.	Pennsylvania.	Born deaf.
	Clearfield.	Lee.	Iowa.	Spinal meningitis.
	Denmark.	Adams.	Iowa.	Sickness.
	Brooks.	Adams.	Iowa.	Born deaf.
	Brooks.	Woodbury.	Iowa.	Born deaf.
	Sioux City.	Woodbury.	Iowa.	By a fall.
	Sioux City.	Butler.	Iowa.	Fever.
	Allen.	Mitchell.	Iowa.	Unknown.
	Riceville.	Jasper.	Iowa.	Unknown.
	Newton.	Jasper.	Iowa.	Unknown.
	Newton.	Jasper.	Iowa.	Born deaf.
Hays, Dennis.				
Hays, James.				
Haslet, Clyde.				
Heller, Osaper.				
Herbold, Herbert.				
Herbold, Victor.				

LIST OF PUPILS—CONTINUED.
MALES.

NAME.	POSTOFFICE.	COUNTY.	Age	NATIVITY.	CAUSE OF DEAFNESS.
Herman, Andrew.	Polk City	Polk	24	Iowa.	Spinal meningitis.
Hill, Glenn.	Muscataine.	Muscataine.	12	Iowa.	Gathering in the head.
Hoerning, Frank.	Gray	Audubon	22	New York	Sickness.
Holmes, Dwight.	Council Bluffs.	Pottawattamie.	8	Iowa.	Unknown.
Hoopes, Orville.	Council Bluffs.	Pottawattamie.	18	Iowa.	Fever.
Hoult, Louis.	Anthony	Woodbury.	8	Nebraska.	Unknown.
Houser, Max B.	Manchester	Delaware.	14	Iowa.	Gathering in the head.
Hutchison, Walter.	Woodbine.	Harrison.	16	Iowa.	Born deaf.
Jackson, Clay.	Sperry.	Des Moines	15	Iowa.	Unknown.
Jacobson, John	Calmar	Winnebago.	24	Iowa.	Brain fever.
Jensen, James.	Pigeon	Pottawattamie	21	Iowa.	Spinal meningitis.
Jessen, John H.	Bouton	Dallas	7	Iowa.	Born deaf.
Jeter, James.	Centerville.	Appanoose.	20	Iowa.	Malaria.
Johnson, Henry.	Cedar Rapids.	Linn	16	Denmark.	Born deaf.
Josephson, Alfred.	Ease.	Page.	19	Sweden.	Born deaf.
Kesterson, Willie	Turlin.	Monona.	15	Iowa.	Fall in a well.
Keatings, Henry.	Kingsley	Plymouth	18	Iowa.	Born deaf.
Knickerbocker, Bud	Turkey River.	Olney	11	Iowa.	Born deaf.
Koehler, George.	Burlington	Des Moines	19	Iowa.	Typhoid fever.
Koschine, Oswald	Springdale, Sioux City	Woodbury.	8	Iowa.	Gathering in the head.
Koschine, Wilhelm.	Springdale, Sioux City	Woodbury.	7	Iowa.	Born deaf.
Kramer, Fred	Burlington	Des Moines	17	Iowa.	A fall.
Krtel, John.	Iowa City	Johnson.	16	Iowa.	A fall.
Krumweida, William.	Green Island.	Jackson.	20	Iowa.	Born deaf.
Kullman, Alex. H.	Wall Lake.	Sac.	11	Iowa.	Born deaf.
Lahndorf, Edward	Vail.	Crawford	11	Iowa.	Whooping cough.
Lainson, Leslie.	Ida Grove.	Ida.	16	Iowa.	Born deaf.
Lande Amos	Slater.	Story.	11	Iowa.	Fever.
Larson, Olf	Des Moines	Polk	17	Norway.	Unknown.
Lee, Charles Harvey	Council Bluffs.	Pottawattamie	11	Nebraska.	Spinal meningitis.
Lee, Eddie	Burlington	Des Moines	13	Iowa.	Born deaf.
Lester, Pearl Roscoe	Dunlap.	Harrison.	10	Missouri	Sickness.
Lowie, Harriett.	Colfax.	Jasper	20	England.	Brain fever.
Meslander, Manis	Muscataine.	Muscataine	19	Russia	Convulsions.
Long, Harry	Council Bluffs	Pottawattamie	17	Iowa.	Scarlet fever.
Lookabill, Paul	Macedonia.	Pottawattamie	12	Iowa.	Unknown.
Loughery, Clyde.	Green Rapids.	Carroll.	9	Iowa.	Malarial fever.
Lyon, Clarence	Tracy Mills.	Lyon.	15	Iowa	Congenital.

Le Valley, Willie.	Dayton.	Webster.	Illinois	Unknown.
Mann, Jay.	Clarton.	Wright.	Iowa.	Gathering in the head.
Martin, Joe.	Mellera.	Dubuque.	Iowa.	Born deaf.
Mendenhall, Clinton	Hastings.	Mills.	Iowa.	Earache.
Mendenhall, George.	Hastings.	Mills.	Iowa.	Unknown.
Metz, Dwight.	Edgewood.	Clayton.	Iowa.	Spinal meningitis.
Miller, Gustave.	Cedar Falls.	Black Hawk.	Iowa.	Born deaf.
Mitchell, Earl.	Atlantic.	Cass.	Iowa.	Gathering in the head.
McColler, Edwin.	Amity.	Scott.	Iowa.	Spinal meningitis.
Moore, Brick.	Boona.	Shelby.	Iowa.	Spinal meningitis.
Moore, Charles.	Coal.	Warren.	Iowa.	Sickness.
Murphy, George.	Pacific Junction.	Mills.	Kansas.	Scarlet fever.
McCombs, Eddie.	Atbia.	Monroe.	Iowa.	Fever.
McFarland, Robert H.	Charter Oak.	Crawford.	Iowa.	Born deaf.
McFarland, Martin.	Charter Oak.	Crawford.	Iowa.	Born deaf.
McKean, J. A.	Marion.	Linn.	Iowa.	Unknown.
McKna, Willie.	Dorchester.	Alismakes.	Iowa.	Born deaf.
McNutt, George.	Belmond.	Wright.	Iowa.	Spinal meningitis.
Nelson, Victor.	Boone.	Boone.	Illinois.	Born deaf.
Nesheim, Martin.	Vinje.	Winnebago.	Iowa.	Earache.
Noble, James.	James.	Plymouth.	Iowa.	Measles.
Osterberg, Carl.	Ottumwa.	Wapello.	Iowa.	Born deaf.
Osterberg, Oscar.	Ottumwa.	Wapello.	Iowa.	Unknown.
O'Brien, Vincent.	Ottumwa.	Wapello.	Iowa.	Born deaf.
Palmer, Lee.	Ottumwa.	Jackson.	Iowa.	Born deaf.
Pape, Fred. H. E.	Ottumwa.	Kosuth.	Iowa.	Lung fever.
Pape, Herman.	Ottumwa.	Brumer.	Iowa.	Spinal meningitis.
Parkhill, Guy.	Ottumwa.	Carroll.	Iowa.	Spinal fever.
Peterson, Carl M.	Ottumwa.	Pottawattamie.	Iowa.	Unknown.
Peterson, Elmer.	Ottumwa.	Greene.	Iowa.	Gathering in the head.
Postusta, Lour.	Ottumwa.	Greene.	Iowa.	Born deaf.
Postusta, Walter.	Ottumwa.	Cerro Gordo.	Iowa.	Born deaf.
Raina, Martin A.	Ottumwa.	Cerro Gordo.	Iowa.	Born deaf.
Recke, Willie.	Fairfield.	Jefferson.	Illinois.	Sickness.
Roberts, Samuel.	Farmington.	Van Buren.	Iowa.	Unknown.
Robinson, John.	Farmington.	Fremont.	Iowa.	Born deaf.
Robinson, Olden.	Weston.	Pottawattamie.	Iowa.	Mumps.
Roby, Arthur.	Odebolt.	Sac.	Iowa.	Unknown.
Raener, Emerst.	Bloomfield.	Davis.	Iowa.	Congenital.
Saun, Willie.	North McGregor.	Clayton.	Wisconsin.	Unknown.
Sawyer, Gordon.	East Cedar Rapids.	Linn.	Iowa.	Born deaf.
Shat, Peter.	Morley.	Jones.	Iowa.	Sickness.
Schaal, Charles.	Orange City.	Stour.	Illinois.	Had a ft.
Schlagel, Frank.	Polk City.	Polk.	Iowa.	Meningitis.
Schmedt, Henry M.	Dubuque.	Dubuque.	Iowa.	Lung fever.
Schmitz, John.	Battle Creek.	Ida.	Iowa.	Born deaf.
Schocker, George.	Halbur.	Oarroll.	Germany.	Sickness.
Scott, Ralph.	Davenport.	Scott.	Iowa.	Born deaf.
Seaman, Jason.	Des Moines.	Polk.	Iowa.	Born deaf.
Selvert, Mathias A.	Redfield.	Dallas.	Iowa.	Gathering in the head.
	Ashton.	Oseola.	Iowa.	Born deaf.

LIST OF PUPILS—CONTINUED.

MALES.

NAME.	POSTOFFICE.	COUNTY.	AGE.	NATIVITY.	CAUSE OF DEAFNESS.
Sheets, Ralph	Batavia	Jefferson	9	Iowa	Born deaf.
	Holland	Grundy	12	Iowa	Brain fever.
	Tama	Tama	10	Iowa	Spinal fever.
	Scranton	Greene	25	Iowa	Born deaf.
	Parkersburg	Butler	25	Iowa	Measles.
	Orange City	Sioux	15	Iowa	Spinal meningitis.
Smith, Walter	Sioux City	Woodbury	21	Iowa	Cholera infantum.
Smith, Willie	Oswego	Fayette	21	Iowa	Born deaf.
Smith, Orlando	Oskaloosa	Mahaska	17	Iowa	Spinal disease.
Spotts, Oscar B	Fort Madison	Lee	10	Nebraska	Spinal fever.
Stacy, Frank	Davenport	Scott	17	Iowa	Born deaf.
Staley, Oran W	Centerville	Appanoose	23	Iowa	By a fall.
Stanske, Charles	Fort Dodge	Webster	18	Iowa	Measles.
Stevens, Lee	Oelwein	Fayette	15	New York	Catarh.
Strong, Willie	Council Bluffs	Pottawattamie	19	Missouri	Born deaf.
Sullivan, John	Youngstown	Polk	11	Iowa	Born deaf.
Swanson, Fredolph	Oakville	Louis	17	Sweden	Brain fever.
Tanner, Louis	Sheldon	O'Brien	11	Iowa	Born deaf.
Teller, Henry	Modale	Harrison	19	Iowa	Whooping cough.
Thompson, John	Ankeny	Polk	23	New York	By a fall.
Trevin, Ray O	Alpha	Fayette	14	Iowa	Spinal disease.
Upah, James	Chelsea	Tama	15	Iowa	Fever.
Wagner, Harry A	Belle Plaine	Benton	13	Iowa	Born deaf.
Wagner, Ed	Ottumwa	Wapello	16	Iowa	Born deaf.
Wagoner, Arthur	Anamosa	Jones	18	Iowa	Scarlet fever.
Walgrin, Frank	Saline	Jefferson	25	Iowa	Fever.
Walleker, Arnold	Clinton	Clinton	15	Illinois	Unknown.
Weaver, Charles L	Bradgate	Humboldt	8	Iowa	Unknown.
West, Hubert	Baker	Jefferson	9	Iowa	Fever.
Wetleif, John	Nichols	Muscatine	23	Germany	Sickness.
White, Laranza	Beacon	Mahaska	14	Iowa	Gathering in the head.
Whitmer, Jesse	Hilldale	Mills	20	Iowa	Brain fever.
Whitmer, Gibson	Lime City	Cedar	15	Iowa	Spinal fever.
Wilson, William	Dairyville	Grundy	15	Iowa	Scarlet fever.
Wood, Miron	Blairtown	Benton	20	Iowa	Born deaf.
Woodworth, Frank E.	Anamosa	Jones	19	Iowa	Gathering in the head.
Woodworth, Fred.	Harmonston	Van Buren	20	Missouri	Gathering in the head.
Wright, Guy W	East Peru	Madison	8	Iowa	Cold.
Wymera, Frank M.	Hwyburn	Page	17	Iowa	Gathering in the head.

FEMALES.

Ades, Henrietta.....	Boonsboro.....	Boone.....	20	Iowa.....	Brain fever.
Allband, Rebecca.....	Griswold.....	Oass.....	20	Pennsylvania.....	Unknown.
Anderson, Hannah.....	Bellevue.....	Jackson.....	13	Iowa.....	Born deaf.
Anderson, Floy.....	Des Moines.....	Polk.....	17	Indiana.....	Born deaf.
Anderson, Minnie.....	Munterville.....	Wapello.....	23	Iowa.....	Spotted fever.
August, Lizzie.....	Fairfield.....	Jefferson.....	20	Iowa.....	Born deaf.
Baerthel, Mary.....	Cedar Rapids.....	Linn.....	20	Iowa.....	Scarlet fever.
Baker, Bessie.....	Gilman	Marshall.....	11	Iowa.....	Oroup
Barnes, Kate.....	Frederic.....	Monroe.....	12	Iowa.....	Born deaf
Barthelson, Annie.....	Audubon.....	Audubon.....	23	Germany.....	Brain fever.
Barrett, Mabel.....	Shelby.....	Shelby.....	12	Iowa.....	Born deaf.
Benesch, Eleanor.....	Holon.....	Johnson.....	20	Iowa.....	Sore in head.
Berry, Kate.....	Rhodes.....	Marshall.....	20	Iowa.....	Brain fever.
Bickel, Ethel.....	Shenandoah.....	Page.....	10	Kansas.....	Sickness.
Blake, Bessie.....	Churdan.....	Greene.....	20	Iowa.....	Sickness.
Blake, Alice.....	Churdan.....	Greene.....	13	Iowa.....	Congenital.
Boone, Hattie.....	Booneville.....	Dallas.....	23	Iowa.....	Congenital.
Baurnan, Lela.....	Victor.....	Iowa.....	17	Iowa.....	Spinal fever.
Brockey, Tomine.....	Lake Mills.....	Winnebago.....	19	Iowa.....	Malarial fever.
Brothers, Mary.....	Mitchellville.....	Polk.....	17	Iowa.....	Sickness.
Brown, Lottie.....	Council Bluffs.....	Pottawattamie.....	11	Iowa.....	Congenital.
Burrill, Dollie.....	Lyons.....	Ullinton.....	13	Iowa.....	Born deaf.
Oabalka, Mary.....	Cedar Rapids.....	Linn.....	27	Bohemia.....	Born deaf.
Oallahah, Mary.....	Keokuk.....	Lee.....	17	Illinois.....	Born deaf.
Ohester, Alice.....	Anita.....	Oass.....	12	Iowa.....	Gathering in the head.
Cole, Edna.....	West Des Moines.....	Polk.....	11	Iowa.....	Scarlet fever.
Collier, Mabel.....	Osceola.....	Clarke.....	23	Iowa.....	Sickness.
Crosby, Sadie.....	Hubbard.....	Hardin.....	16	Iowa.....	Scarlet fever.
Cunard, Helen.....	Dunlap.....	Harrison.....	34	Illinois.....	Scarlet fever.
Dally, Kate.....	Lone Tree.....	Johnson.....	23	Iowa.....	Unknown.
Darnall, Arah.....	Des Moines.....	Polk.....	13	Iowa.....	Sickness
Davis, Mabel.....	Castana.....	Monona.....	14	Iowa.....	Born deaf.
Dawartz, Minnie.....	Davenport.....	Scott.....	18	Germany.....	Fever.
Dechner, Emeline.....	Newell.....	Buena Vista.....	20	Illinois.....	Sickness.
Dehn, Lena.....	Garnavillo.....	Clayton.....	23	Germany.....	Unknown.
Dempsey, Lydie.....	Buffalo Center.....	Winnebago.....	30	Iowa.....	By a fall.
Dickover, Mabel.....	Sioux City.....	Woodbury.....	19	Illinois.....	Spinal meningitis.
Dietz, Gertie.....	Cedar Rapids.....	Linn.....	21	Iowa.....	Sickness.
Dorn, Emma.....	Crane Creek.....	Black Hawk.....	13	Iowa.....	Unknown.
Dougherty, Lulu.....	New Market.....	Taylor.....	18	Iowa.....	Born deaf.
Dues, Jennie.....	Roland.....	Story.....	20	Iowa.....	Born deaf.
Eddy, Clara.....	Council Bluffs.....	Pottawattamie.....	25	Ohio.....	Brain fever.
Etzel, Lizzie.....	Vall.....	Crawford.....	20	Iowa.....	Born deaf.
Fairbanks, Ruth.....	Council Bluffs.....	Pottawattamie.....	16	Iowa.....	Spinal meningitis.
Farquhar, Pearl.....	Marshalltown.....	Marshall.....	16	Iowa.....	Spinal meningitis.
Filby, Mary.....	Yankee.....	Ulay.....	28	Iowa.....	Unknown.
Floerchinger, Frances.....	Victor.....	Iowa.....	19	Iowa.....	Born deaf.

LIST OF PUPILS—CONTINUED.
FEMALES.

NAME.	POSTOFFICE.	COUNTY.	AGE.	NATIVITY.	CAUSE OF DEAFNESS.
Fretwell, Oda M.	Dedham	Carroll	14	England	
Fritz, Mabel		Keokuk	13	Iowa	
Gifford, Rosa		Mitchell	20	Iowa	
Gifford, Addie		Mitchell	18	Iowa	
Gifford, Maggie		Mitchell	15	Iowa	
Gifford, Bessie		Mitchell	10	Iowa	
Gifford, Effie		Mitchell	9	Iowa	Unknown.
Gohlinghoist, Nellie		Pottawattamie	17	Iowa	Sickness.
Gortin, Sarah		Polk	16	Iowa	Unknown.
Gough, Amy E.		Cerro Gordo	11	Iowa	Lung fever.
Gregar, Mathilda		Johnson	15	Iowa	Born deaf.
Bargens, Caroline		Ida	13	Iowa	Born deaf.
Hastings, Edith O.		Greene	11	Illinois	Born deaf.
Hawk, Elva O.		Johnson	19	Iowa	Whooping cough.
Haworth, Myrtle		Emmet	16	Iowa	Worms.
Hiel, Rosa		Linn	18	Iowa	Sickness.
Hilton, Hulda		Webster	17	Norway	
Hines, Ethel	Fort Dodge	Olay	10	Dakota	
Hoch, Edna	Dedham	Carroll	13	Iowa	
Hoffman, Clara V.	Benton	Dallas	11	Kansas	
Hull, Leona	Sioux City	Woodbury	9	Iowa	
Hunt, Mary	Sheldon	O'Brien	23	Iowa	
Hunt, Jennie Bell	Sioux City	Woodbury	19	Nebraska	
Hutchison, Pollie	Waverly	Bremer	14	Iowa	Brain fever.
Inghram, Oeda	Fairfield	Jefferson	13	Missouri	Sickness.
Jamison, Carrie	Keosauqua	Van Buren	16	Iowa	Born deaf.
Johnson, Gertrude	Olimbing Hill	Woodbury	9	Iowa	Born deaf.
Johnson, Effie	Olimbing Hill	Woodbury	7	Iowa	Born deaf.
Jones, Prudy	Manly	Worth	16	Iowa	From a fall.
Jordan, Nettie	Dow City	Orawford	18	Iowa	Scarlet fever.
Karst, Essie	Iowa Falls	Hardin	23	Iowa	Tornado.
Kellogg, Neva	Bradgate	Humboldt	19	Iowa	Sickness.
Kellogg, Nellie	Sioux City	Woodbury	6	Iowa	Born deaf.
Kerr, Hulda	Winchester	Van Buren	25	Iowa	Unknown.
Lang, Catherine	Belleve	Jackson	15	Illinois	Unknown.
Larson, Christina	Eldorado	Payette	31	Iowa	Scarlet fever.
Laur, Lucile	Le Mars	Plymouth	11	Iowa	Born deaf.
Lesinger, Nettie	Irwin	Shelby	23	Iowa	Acrofolia.

LIST OF PUPILS—CONTINUED.

FEMALES.

NAME.	POSTOFFICE.	COUNTY.	AGE.	NATIVITY.	CAUSE OF DEAFNESS.
Standley, Edna.	Boone	Boone	15	Iowa.	Sickness.
		Decatur	16	Minnesota.	Born deaf.
		Allamakee.	10	Iowa	Born deaf.
		Polk	20	Ireland	Born deaf.
		Mahaska.	8	Illinois	Sickness.
		Harrison.	14	Iowa.	Unknown.
		Harrison.	23	Iowa.	Mumps.
		Mills.	16	Iowa.	Sickness.
		Crawford.	16	Iowa.	Spotted fever.
		Buchanan.	16	Iowa.	Gathering in the head.
		Wapello	14	Iowa.	Born deaf.
		Des Moines.	19	Illinois	Unknown.
		Mills.	17	Iowa	Unknown.
		Pottawattamie	25	Iowa	Brain fever.
		Pottawattamie	20	Iowa.	Sickness.
		Pottawattamie.	12	Nebraska	Born deaf.
		Hamilton	18	Iowa	Spinal fever.
		Wapello	10	Iowa	Unknown.
		Polk	11	Iowa	Unknown.
		Polk	6	Iowa	Born deaf.
		Union	8	Iowa	Spinal fever.
		Harrison.	20	Iowa	Measles.
		Monroe.	6	Iowa	Unknown.
		Mills.	19	Iowa	Unknown.
		Fremont	16	Missouri.	Unknown
		Butler.	16	Iowa	Brain fever.
		Clinton.	6	Iowa	Born deaf.
		Dallas	20	Iowa	Lung fever.
		Polk.	21	Connecticut.	Born deaf.

STATEMENT

Showing expenditures during the biennial period ending June 30, 1897.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896. June.	7145	Western Union Telegraph Co.	Telegrams.....	\$.65
	7146	Pryor Bros.	Office supplies.....	.90
	7147	H. A. Cox.....	Coke.....	9.75
	7148	Diere, Wells & Co.....	Farm supplies.....	3.00
	7149	H. Kohnstamm & Co.	Bluing.....	6.25
	7150	Council Bluffs Paint, Oil & Glass Co	Paint supplies.....	4.15
	7151	Standard Oil company.....	Oils.....	91.75
	7152	Thomas Bowman, postmaster	Postage.....	20.00
	7153	M. E. Weatherbee	Stabling.....	10.75
	7154	John Beno & Co.....	Dry goods and clothing	186.93
	7155	J. M. Fouts	Library supplies.....	23.97
	7156	B. H. Kohlweg	Veterinary service.....	5.00
	7157	United States Supply company.....	Repair supplies.....	1.20
	7158	Council Bluffs Coal and Ice Co....	Coal.....	265.92
	7159	J. E. Snyder.....	Groceries and provisions.....	25.16
	7160	Shugart & Ouran.....	Seeds.....	23.00
	7161	Shugart & Ouran	Seeds.....	12.75
	7162	D. W. Bushnell	Stationery.....	33.00
	7163	Groneweg & Schoentgen.....	Groceries.....	173.81
	7164	Kennard Glass and Paint company	Carpenter shop supplies	2.80
	7165	Crane company	Engineer's supplies	61.44
	7166	G. Brandenburg & Co.....	Shoe shop supplies ..	71.75
	7167	J. L. Brandies & Son.	House supplies ..	12.29
	7168	Carpenter Paper company	Printing office supplies.....	6.74
	7169	Carter Cottrell Hardware company	Hardware ..	1.88
	7170	W. A. Page Soap company.....	Laundry supplies.....	24.15
	7171	J. H. Pace	Meats	453.68
	7172	Stephan Bros.....	Engineer's supplies.....	23.50
	7173	Adams Express company.....	Expressage ..	.95
	7174	Morehouse & Co	Library supplies	8.50
	7175	H. O. Smith & Co	Art room supplies	1.12
	7176	Chicago & North-Western Ry. Co.	Freight ..	.53
	7177	Chicago, Milwaukee & St. P. Ry. Co	Freight	1.50
	7178	Wilson Bohannon	Keys	1.57
	7179	Henry T. Thomas & Co	Books ..	1.50
	7180	Omaha & St. Louis Railway Co.	Freight .....	.45
	7181	American Type Foundry company.	Printing office supplies.....	1.88
	7182	Harle Haas & Co	Drugs, etc	19.23
	7183	Olint S. Byers.....	Shoes ..	28.45
	7184	Western Electrical Supply Co	Electrical supplies.....	24.51
	7185	J.	Flour.....	73.60
	7186	D.	Farm supplies.....	7.55
	7187	C.	Flour and feed	39.60
	7188	J.	General supplies	62.11
	7189	E.	Groceries and provisions ..	195.22
	7190	D.	Stationery.....	4.80
	7191	P.	Hardware	22.05
	7192	D.	Hardware	6.27
	7193	St.	Groceries	125.79
	7194	F.	Clothing and dry goods ..	229.72
	7195	O.	Library supplies	4.50
	7196	H.	Miscellaneous accounts....	195.80
	7197	T.	Milk cans.....	2.40
	7198	M.	Clothing.....	96.34
	7199	K.	House supplies.....	3.12

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1895.				
June..	7200	W	Dining room supplies.....	\$ 21.81
	7201	E	Hardware.. ..	7.53
	7202	B	Butter.....	197.00
	7203	N	Rent & outside connections ..	19.13
	7204	C	Sewing room supplies.....	7.83
	7205	H	Repairs.....	1.00
	7206	D	Medical attendance ..	27.00
	7207	G	Lumber ..	71.65
	7148	H	Pay roll officers & employees ..	1,400.00
	7208	F	Yeast ..	10.13
	7209	A	Crackers ..	15.00
	7210	D	Farm supplies.....	1.35
	7211	J.	Flour.....	65.00
	7212	D	Repairs ..	2.00
	7213	C	House supplies ..	21.42
	7214	L	House and school supplies.....	2.00
	7215	W	Electrical supplies.....	12.19
	7216	H	General supplies ..	11.87
	7217	S	Groceries ..	102.30
	7218	O	Repairs ..	12.05
	7219	O	Flour and feed.....	65.05
	7220	M	Hats.....	125.25
	7221	T	Signs ..	4.00
	7222	M	Stabling ..	14.75
	7223	E	Groceries and provisions.....	204.00
	7224	H	Miscellaneous accounts.....	222.22
	7225	D	Medical attendance ..	27.00
	7226	G	Lumber ..	65.36
	7227	T	Milk cans ..	2.00
	7228	W	Laundry supplies ..	22.50
	7229	W	Horse shoeing.	12.00
	7230	E	Hardware ..	40.00
	7231	D	Stationery.	12.70
	7232	C	Shoes ..	44.40
	7233	U	Repairs ..	.25
	7234	J.	Meats ..	400.00
	7235	W	Dining room supplies.....	25.15
	7236	C	Lumber ..	4.25
	7237	G	Groceries.....	204.00
	7238	General Incandescent Arc Light Co	Lamps ..	20.25
	7239	G. Brandenburg & Co ..	Shoe shop supplies.	1.70
	7240	A. J. Fuller & Co.	House supplies ..	7.50
	7241	Carter-Cottrell Hardware Co.....	Hardware.....	1.05
	7242	Wm. Ahrens ..	Farm supplies.....	14.00
	7243	Chicago General Fixture Co.....	Lamps ..	5.50
	7244	E. A. Rea ..	Hardware ..	2.15
	7245	J. B. Atkins ..	General supplies ..	25.50
	7246	Henry Kingston ..	Plants ..	2.00
	7247	Dr. Henry Babcock ..	Veterinary service ..	20.00
	7248	O. & N. W. Ry. Co ..	Freight ..	.25
	7249	T. J. Dally ..	Lettering diplomas.	1.00
	7250	Hammer Lumber Co ..	Lumber.....	25.15
	7251	Metcalf Bros ..	Clothing.....	18.15
	7252	John Beno & Co.....	Dry goods and clothing.....	157.05
	7253	Adams Express Co ..	Expressage.....	.75
	7254	American Express Co ..	Expressage ..	.40
	7255	Thomas Bowman, postmaster.	Postage.....	20.00
	7256	N. T. McAtee ..	Groceries and provisions.....	12.40
	7257	B. M. Sargent ..	Shoes ..	24.25
	7258	O. B. Paint, Oil and Glass Co.....	House supplies ..	2.00
	7259	Standard Oil Co.....	Oils ..	12.70
	7260	J. Peterson ..	Drayage.....	.25
	7261	P. O. DeVal ..	Hardware.....	25.45
	7262	C. B. Coal and Ice Co ..	Coal ..	112.00
	7263	Western Union Telegraph Co.....	Telegrams.....	1.11
	7264	J. P. Weaver ..	Mason work, etc.....	40.05
	7265	Chapman & Smith Co.....	Bakery supplies.....	1.00
	7266	S. S. Keller ..	Furniture ..	84.22
	7267	Nebraska Telephone Co.....	Rent & outside connect'ns ..	17.00
	7268	J. L. Brandles & Son.....	House supplies.....	20.35
	7269	George Outler ..	Telephone supplies.....	24.00
	7270	Mrs. M. Pfeiffer.....	Hats ..	2.20
	7271	J. B. McPherson.....	Flower plants.....	9.20

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896				
June .	7272	Carpenter Paper company.....	Printing office supplies.....	\$ 21 56
	7273	E. O. Smith.....	Blackboard.....	8.75
	7274	J. R. Rice.....	Trees.....	80.21
July...	7275	Henry W. Rothert, superintendent	Pay roll, officers & employes	1,334.43
	7276	Mrs. M. Page.....	Vegetables.....	10.00
	7277	Peter Henderson & Co.....	Garden supplies.....	11.47
	7278	E. D. Balth & Co.....	Hay.....	16.69
	7279	O. A. Lock & Co.....	Disinfecting powder.....	7 03
	7280	Iowa Sold'rs' & Sailors' Mon't Ass'n	Coat of arms.....	12.00
	7281	Boardman Bros. & Co.....	Produce.....	214.92
	7282	W. C. Young.....	Gymnasium supplies.....	1.18
	7283	American Type Foundry Co.....	Printing office supplies.....	14 22
	7284	Carpenter Paper company ..	Printing office supplies.....	16.66
	7285	Standard Oil company.....	Oils ..	17.44
	7286	Fleischmann & Co.....	Yeast ..	1.75
	7287	Chicago & North-Western Ry. Co..	Freight.....	1.41
	7288	Eli Brown.....	Groceries and provisions...	109.88
	7289	Drs. Hanchitt & Smith.....	Medical attendance	25 00
	7290	Schultz & Hill	Repairs	11 65
	7291	Western Union Telegraph Co.....	Telegrams.....	3.61
	7292	W. A. Maurer.....	Dining-room supplies.....	18 56
	7293	P. O. DeVal.....	Hardware.....	24.28
	7294	George A. Hoagland.....	Lumber	1.91
	7295	N. B. Falcmer.....	Robe.. ..	6.85
	7296	J. F. Wilcox.....	Plants, etc.....	33.15
	7297	Fowler, Dick & Walker	Dry goods and clothing	70.89
	7298	J. H. Pace	Meats.....	311.36
	7299	Mueller Piano and Organ company.	Rent of piano.....	24.00
	7300	D. W. Bushnell	Stationery.....	10.15
	7301	Henry W. Rothert, superintendent.	Railroad fare per pupils...	172 17
	7302	Chicago & North-Western Ry. Co..	Freight	16.68
	7303	Thomas Bowman, postmaster	Postage.....	10.00
	7304	Adams Express company.....	Expressage and c. o. d	17 31
	7305	Henry W. Rothert, superintendent.	Miscellaneous accounts...	248.88
	7306	Goodyear Rubber company.....	Springs.....	1.38
	7307	Harle Haas & Co.	Carpenter shop supplies...	.12
	7308	M. E. Weatherbee	Stabling	8.50
	7309	J. O. Bixby	Radiator brushes	1.60
	7310	Groneweg & Schoentgen.	Groceries	159 69
	7311	J. B. Atkins.	General supplies.....	18.25
	7312	W. W. Chapman	House supplies.....	5.60
	7313	American Express company.....	Expressage .....	.60
	7314	Dr. H. O. Babcock	Veterinary service	22.00
	7315	O. B. Randlett.....	Provisions	22.85
	7316	Crane company.	Engineer's supplies.....	28 35
	7317	Council Bluffs Coal and Ice Co.	Coal	114.58
	7318	A. T. Flickinger	Service as treasurer.....	100.00
	7320	Purity Candy Kitchen.....	Ice cream	4.50
	7321	O., B. & Q. Ry. Co.....	Freight.....	2.96
	7322	Sprague Iron Works.....	Repairs.....	20.13
	7323	Duquette & Co.....	Provisions ..	26.10
	7324	O. Younkerman & Co.....	Potatoes...	21.25
	7325	W. A. Goehring.....	Horseshoeing.....	1.50
	7326	David Bradley & Co.....	Farm supplies.....	1.05
	7327	O. B. Paint, Oil and Glass Co.....	House supplies	19 58
	7328	Nebraska Telephone Co.....	Rent & outside connect'ns.	19.03
	7329	Kennard Glass and Paint Co.....	Globes	9.50
	7330	Stephan Bros	House supplies	12 42
	7331	Crane Co	Pipe and fitting.....	89.63
	7332	Christina Leslie.....	Garden supplies.....	1.00
	7333	Hange & Olson	Repairs.....	5 50
	7334	M. F. Templeton	Soaps	5.00
	7335	Orr & Lockett Hardware Co... ..	Hardware.....	20.00
	7336	Russell & Co	House supplies.....	1 50
	7337	H. J. Palmer	Strawberries	8.00
	7339	John Beno & Co.....	Dry goods and clothing....	28.06
Aug. .	7339	Henry W. Rothert, superintendent	Miscellaneous accounts...	100 05
	7340	Shugart & Ouran.....	Seeds	1.40
	7341	McCormick Harvesting M'ch'ne Co.	Mower	32.00
	7342	D. W. Bushnell.....	Stationery	1 25
	7343	O. B. Paint, Oil and Glass Co.....	Paint supplies	10.45
	7344	J. B. Atkins	Paints & general supplies.	48 32
	7345	A. Rasmusen	Horseshoeing.....	3.00

STATEMENT—CONTINUED.

Date.	Warrant	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1895				
Aug..	7345	W	Art supplies.....	1.75
	7347	W	Horseshoeing.....	1.00
	7348	M	Book-binding and books..	21.75
	7349	J.	Meats.....	125.21
	7350	S.	Furniture.....	1.50
	7351	J.	Dry goods and clothing....	24.01
	7352	P	Doors, etc.....	19.00
	7353	G	Groceries.....	171.25
	7354	O	Flour.....	20.75
	7355	S	Groceries.....	24.15
	7356	F	Dry goods.....	11.20
	7357	J.	Steam fitting.....	5.25
	7358	D	Medical attendance.....	15.00
	7359	J.	Bread.....	4.50
	7360	S.	Oils.....	24.14
	7361	G	Lumber.....	142.21
	7362	S.	Gas fixtures.....	12.00
	7363	D	Roses.....	8.05
	7364	P	Hardware.....	24.22
	7365	N	Rent & outside connect'ns.	12.00
	7366	J.	Services.....	20.00
	7367	C	Pipe and fitting.....	21.75
	7368	H	Fruits.....	11.30
	7369	V	Harness.....	8.20
	7370	E	Groceries.....	117.25
	7371	O.	Coal.....	62.24
	7372	Van Brunt & Walt.	Machine repairs.....	.40
	7373	Charles Swaine	Hardware.....	6.15
	7374	Chapman & Smith Co.	Bakery supplies.....	1.00
	7375	Boston Store	Dry goods.....	7.55
	7376	J. F. Wilcox	Flowers.....	.40
	7377	Western Electrical Supply Co.	Electric light supplies....	24.00
	7378	Dearborn Chemical Works..	Boiler compound.....	25.50
	7379	B. M. Sargent	Clothing.....	10.00
	7380	Harle, Haas & Co.	Drugs.....	1.00
	7381	Paul G. Snyder	Drugs.....	2.00
	7382	Schultz & Hill	Repairs.....	1.00
	7383	J. C. Vaughn	Seeds.....	7.45
	7384	Walton Bros	Harness.....	2.00
	7385	W. A. Maurer	Glass ware.....	2.00
	7386	J. M. Lampke	Awning.....	6.00
	7387	Henry W. Rothert, superintendent.	Pay roll, officers & employees	1,000.00
	7388	G. O. Taylor	Labor.....	70.00
	7389	J. A. Reimier	Labor.....	20.00
	7390	M. E. Weatherbee	Stabling.....	4.25
	7391	A. Schott	Harness.....	2.00
	7392	The Machinists Supply Co.	Engineer's supplies.....	1.25
Sept.	7393	Henry W. Rothert, superintendent.	Pay roll, officers & employees	1,201.10
	7394	A. J. Fish & Co.	Ice cream freezer.....	61.75
Oct...	7395	Henry W. Rothert, superintendent	Pay roll, teachers.....	1,743.25
	7396	Henry W. Rothert, superintendent.	Pay roll, officers & employees	1,624.54
	7397	G. O. Taylor, labor	Labor.....	70.00
	7398	Council Bluffs Coal & Ice Co.	Coal.....	124.14
	7399	Shugart & Oursan	Seeds.....	2.00
	7400	David Bradley & Co.	Pipe and fittings.....	65.32
	7401	Peter Henderson & Co.	Seeds.....	20.25
	7402	The Baum Iron Works Co.	Engineer's supplies.....	22.20
	7403	A. J. Fuller & Co.	Polish.....	2.16
	7404	Sprague Iron Works Co.	Repairs.....	100.25
	7405	American Express Co.	Expressage.....	.25
	7406	S. T. McAtwee	Groceries.....	2.00
	7407	Dr. H. O. Babcock	Veterinary service.....	15.00
	7408	The New Nonpareil Co.	Office supplies.....	1.75
	7409	The Nonpareil Printing Co.	Ink.....	.05
	7410	Reese Printing Co.	Office supplies.....	27.25
	7411	Henry Lehmann	Wall paper.....	1.00
	7412	S. B. Keller	Furniture.....	5.50
	7413	Van Brunt & Walt.	Farm supplies.....	1.75
	7414	Utica Steam Gauge Co.	Engineer's supplies.....	20.00
	7415	J. B. Long	Repairs.....	125.00
	7416	N. W. Williams	Repairs.....	140.00
	7417	N. W. Williams	Repairs.....	1.00
	7418	Council Bluffs Roofing & Cornice Co.	Repairs.....	20.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1895. Oct....	7419	H. H. Palmer & Co.....	Pulleys	\$ 2.50
	7420	W. D. Wilke.	Hogs	47.00
	7421	American Annals of the Deaf.....	Subscription	12.00
	7422	O. B. & Q. Ry Co.....	Freight	3.80
	7423	Fowler, Dick & Walker.....	Dry goods	11.22
	7424	Council Bluffs Paint, Oil & Glass Co	Paint supplies	17.00
	7425	Nebraska Telephone company.....	Rent & outside connections	18.23
	7426	Chicago, Rock Island & P. Ry. Co..	Freight	9.27
	7427	Empkie-Shugart company.....	Hardware.....	84.98
	7428	John Beno & Co	Dry goods and clothing.....	8.55
	7429	Standard Oil company.	Oils	24.15
	7430	Harle. Haas & Co	Drugs, etc.....	12 00
	7431	M. E. Weatherbee ...	Stabling	6 50
	7432	W. A. Page Soap company	Soap chips.....	12.87
	7433	J. H. Pac.....	Meats	151.79
	7434	Western Union Telegraph Co.....	Telegrams.....	2.23
	7435	W. A. Goehring.	Horseshoeing.....	8 00
	7436	Crystal Mill and Grain company...	Flour.....	31.30
	7437	Crystal Mill and Grain company...	Flour.	15.10
	7438	Groneweg & Schoentgen	Groceries.....	136.14
	7439	George A. Hoagland.	Lumber	20.33
	7440	Western Electrical Supply Co.....	Electric light supplies.....	38.75
	7441	D. W. Bushnell.	Stationery.	109.45
	7442	Eli Brown.	Groceries.....	71.91
	7443	W. A. Maurer.....	Dining room supplies.....	97.14
	7444	Jacob Lutzenger.	Bread... ..	10.90
	7445	J. B. Atkins.....	General supplies.....	47.80
	7446	Thomas Bowman, postmaster.....	Postage.	34.66
	7447	Chicago & North-Western Ry. Co..	Freight.	5.70
	7448	Chicago, Rock Island & P. Ry. Co..	Freight.	2.56
	7449	P. O. De Val.	Hardware.....	15.45
	7450	A. G. Spalding & Bros..	Gymnasium supplies....	18.00
	7451	A. G. Spalding & Bros.....	Gymnasium supplies.....	33.34
	7452	A. G. Spalding & Bros.....	Gymnasium supplies.....	24.45
	7453	A. G. Spalding & Bros.....	Gymnasium supplies.....	183.33
	7454	A. G. Spalding & Bros.....	Gymnasium supplies.....	9.28
	7455	A. G. Spalding & Bros.....	Gymnasium supplies.....	7.47
	7456	A. G. Spalding & Bros.....	Gymnasium supplies..	6.67
	7457	Henry W. Rothert, superintendent	Miscellaneous accounts...	377.46
	7458	Schultz & Hill	Repairs.....	4.50
	7459	Erans & Howard Fire Brick Co.....	Brick.	4.00
	7460	Schultz & Hill	Repairs	5.10
	7461	Drs. Hanchitt & Smith	Medical attendance ...	56.50
	7462	American Boat Building company.	Gymnasium supplies.....	1.58
	7463	John Beno & Co	Clothing and dry goods....	150.32
	7464	Charles Swaine	Repairs	4.65
	7465	Nebraska Telephone company.....	Rent & outside connections	18.73
	7466	Wickham Bros..	Sand.....	2.00
	7467	F. M. Russell & Co.....	House supplies.....	2 55
	7468	J. O. Hoffmayr.....	Flour.....	55.50
	7469	O. B. Jacquemier & Co.	House supplies....	6.25
	7470	American Biscuit Mfg. company...	Crackers.....	16 53
	7471	J. B. Atkins.....	General supplies	19 65
	7472	Crystal Mill and Grain company...	Flour.	54 00
	7473	Stewart Bros..	Groceries.....	104.36
	7474	W. A. Maurer.....	Dining room supplies.....	56.66
	7475	W. A. Goehring.	Horseshoeing.....	7.00
	7476	Council Bluffs Paint, Oil & Glass Co	House supplies.....	15.75
	7477	The Durfee Furniture Co.....	Furniture.	18.00
	7478	Richmond Safety Gate Co.	Elevator gates.....	165 00
	7479	H. Kohnstamm & Co.	Laundry supplies.....	6.70
	7480	A. G. Spalding & Bros..	Gymnasium supplies.....	10.00
	7481	O., R. I. & P. Railway Co.....	Freight	10.81
	7482	O. & N. W. Railway Co.....	Freight	22 62
	7483	Thomas Bowman, postmaster	Postage and stationery ...	77.32
	7484	Henry W. Rothert, superintendent.	Miscellaneous accounts ...	113 14
	7485	The Phoenix Electric Supply Co..	Electric light supplies.....	5.00
	7486	O., M. & St. P. Railway Co.....	Freight	5 24
	7487	J. Sletzenger	Bread	1.58
	7488	D. S. Pile.....	Farm supplies. ...	10.85
	7489	Stephan Bros.	House supplies.....	1.90
	7490	J. T. Findley.....	Oils.....	.75
	7491	Fleishmann & Co.....	Yeast	8.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1895 Dec....	7560	J. B. Atkins.	General supplies.....	\$ 31.85
	7561	Council Bluffs Coal and Ice Co.....	Coal.....	491.24
	7562	Groneweg & Schoentgen.	Groceries.....	528.55
	7563	The Singer Manufacturing Co.....	Sewing room supplies.....	5.55
	7564	American Biscuit and Mfg. Co.....	Cans.....	3.00
	7565	H. Kohnstamm & Co.	Laundry supplies.....	9.20
	7566	Caroline Yale.....	Charts.....	8.00
	7567	Coaline Manufacturing Co.....	Coaline.....	1.60
	7568	The John Van Range Co.....	Plug.....	1.00
	7569	J. O. Hoffmayr.....	Flour.....	51.10
	7570	O. & N. W. Railway Co.....	Freight.....	.76
	7571	O. & St. L. Railway Co.....	Freight.....	2.19
	7572	O. & St. L. Railway Co.....	Freight.....	3.51
	7573	O., B. & Q. Railway Co.....	Freight.....	10.40
	7574	S. T. McAtee.....	Groceries.....	8.75
	7575	W. A. Page Soap Co.....	Laundry supplies.....	25.24
	7576	Western Union Telegraph Co.....	Telegrams.....	2.39
	7577	Thomas Bowman, postmaster.....	Postage.....	20.00
	7578	H. O. Raymond.....	Supplies.....	11.20
	7579	George A. Hoagland.....	Lumber.....	20.45
	7580	Henry W. Rothert, superintendent.....	Miscellaneous accounts...	199.95
	7581	P. C. DeVol.....	Hardware.....	22.30
	7582	Crystal Mill and Grain company...	Flour and feed.....	59.10
	7583	Carter Hardware company.....	Hardware.....	1.25
	6549	Herrick Refrig'r & Cold Storage Co.	Payment on contract.....	449.88
	6523	P. H. Wind.....	Payment on contract.....	880.75
	6524	P. H. Wind.....	Payment on contract.....	508.00
	6525	P. H. Wind.....	Payment on contract.....	110.00
	7584	Harle, Haas & Co.....	Drugs, etc.....	8.95
	7585	Fleischmann & Co.....	Yeast.....	5.68
	7586	J. H. Pace.....	Meats.....	392.85
	7587	Metcalf Bros.....	Clothing.....	107.25
	7588	W. A. Goehring.....	Horseshoeing.....	7.50
	7589	Western Union Telegraph Co.....	Telegrams.....	2.99
	7590	Empkie-Shugart company.....	Hardware.....	28.58
	7591	Olint S. Byers.....	Shoes.....	11.00
	7592	D. W. Bushnell.....	Stationery.....	31.15
	7593	H. J. Palmer.....	Fruits.....	2.60
	7594	John Beno & Co.....	Dry goods and clothing....	82.93
	7595	Boardman Bros. & Co.....	Butter.....	252.00
	7596	Dra. Hanchitt & Smith.....	Medical attendance.....	53.50
	7597	J. F. Wilcox.....	Flowers.....	2.15
	7598	J. B. Atkins.....	General supplies.....	26.77
	7599	H. A. Cox.....	Coal.....	91.14
	7600	Eli Brown.....	Groceries.....	271.66
	7601	Groneweg & Schoentgen.....	Groceries.....	178.89
	7602	S. T. McAtee.....	Groceries.....	20.30
	7603	Hayden Bros.....	Groceries & kitchen suppl's	13.21
	7604	Chicago & North-Western Ry. Co..	Freight.....	1.55
	7605	Charles Scheorick & Co.....	House supplies.....	4.90
	7606	American Express company.....	Salmon.....	15.00
	7607	Trustees Lewis township.....	Road grading, etc.....	50.00
	7608	Adams Express company.....	Goods, c. o. d.....	20.65
	7609	Henry W. Rothert, superintendent.....	Miscellaneous accounts....	68.40
	7610	Thomas Bowman, postmaster.....	Postage.....	35.90
	7611	S. S. Keller.....	Furniture.....	193.95
	7612	Fowler, Dick & Walker.....	Dry goods.....	40.75
	7613	Chapman & Smith company.....	Bakery supplies.....	3.10
	7614	J. O. Hoffmayr.....	Flour.....	53.10
	7615	Crystal Mill and Grain company...	Flour and feed.....	120.90
	7616	David Bradley & Co.....	Pipes, etc.....	14.13
	7617	Sunbeam Incandescent Lamp Co..	Lamps.....	40.83
	7618	American Express company.....	Salmon.....	21.00
	7619	Stephan Bros.....	House supplies.....	5.05
	7620	Clark & Witzel.....	Dry goods.....	7.17
	7621	John G. Woodward & Co.....	Paper sacks.....	.36
	7622	Nebraska Telephone company.....	Rent and outside con'ect'ns	11.53
	7623	Western Electrical Supply Co.....	Electric light supplies.....	2.05
	7624	M. E. Weatherbee.....	Stabling.....	6.50
	7625	W. A. Maurer.....	Dining room supplies.....	108.81
	7626	P. C. De Vol.....	Hardware.....	25.25
	7627	Carpenter paper company.....	Printing office supplies....	18.83
	7628	George A. Hoagland.....	Lumber.....	108.23

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1895. Dec....	7629	Richmond Safety Gate Co.....	Repairs.....	4.00
	7630	O. B. coal and Ice Co.....	Coal.....	497.37
	7631	G. Brandenburg & Co.....	Shoe shop supplies.....	178.71
	7632	Henry W. Rothert, superintendent	Miscellaneous account.....	27.70
	7633	Troy Laundry Machinery Co.....	Laundry supplies.....	.75
	7634	O. B. Paint, Oil and Glass Co.....	Mecca compound.....	5.00
	7635	W. W. Chapman.....	House supplies.....	9.90
	7636	Milton Rogers & Son.....	Gas burners.....	2.50
	7637	H. Gifford, M. D.....	Eye glasses.....	2.00
1896 Jan....	7638	Henry W. Rothert, superintendent	Pay roll, teachers.....	1,799.94
	7639	Henry W. Rothert, superintendent	Pay roll, offic'rs & empl's..	1,501.80
	7640	Carpenter Paper Co.....	Printing office supplies....	46.98
	7641	Fleischmann & Co.....	Yeast.....	5.00
	7642	American Express Co.....	Salmon.....	12.50
	7643	J. O. Bixby.....	Fire clay.....	1.75
	7644	The Aloe & Penfold Co.....	Hospital supplies.....	9.00
	7645	Nebraska Telephone Co.....	Rent and outside con'ct'ns	11.43
	7646	Stephan Bros.....	Engineer's supplies.....	21.95
	7647	Boardman Bros. & Co.....	Butter, etc.....	321.58
	7648	The John Van Range Co.....	Brackets.....	.30
	7649	American School for the Deaf.....	Books.....	12.50
	7650	Council Bluffs Carpet Co.....	House supplies.....	18.65
	7651	Kennard Glass and Paint Co.....	Paint supplies.....	10.70
	7652	O. & N. W. Ry. Co.....	Freight.....	10.16
	7653	Chicago Clamp Co.....	Clamps.....	11.40
	7654	Peter Henderson & Co.....	Plants.....	1.25
	7655	N. O. Nelson Mfg. company.....	Engineer's supplies.....	2.53
	7656	D. S. Pile.....	Farm supplies.....	1.75
	7657	J. R. Snyder.....	Produce.....	18.29
	7658	George A. Hoagland.....	Lumber.....	1.18
	7659	Mueller Piano and Organ company	Rent of piano.....	24.00
	7660	American Biscuit Mfg. company...	Crackers.....	16.34
	7661	G. Brandenburg & Co.....	Shoe shop supplies.....	9.40
	7662	Crystal Mill and Grain company...	Flour and feed.....	62.50
	7663	John G. Woodward & Co.....	Entertainment supplies...	19.38
	7664	P. C. De Vol.....	Hardware.....	24.25
	7665	Charles R. Lee.....	Lumber.....	8.68
	7666	D. W. Bushnell.....	Stationery.....	7.75
	7667	J. O. Hoffmayr.....	Flour.....	51.95
	7668	Fowler, Dick & Walker.....	Dry goods.....	143.49
	7669	Olint S. Byers.....	Shoes.....	24.35
	7670	Thomas Bowman, postmaster.....	Postage.....	20.00
	7671	J. H. Pace.....	Meats.....	511.45
	7672	Eli Brown.....	Groceries.....	167.93
	7673	Stewart Bros.....	Groceries.....	175.33
	7674	Council Bluffs Paint, Oil & Glass Co	House supplies.....	5.15
	7675	W. A. Page Soap Co.....	Laundry supplies.....	25.47
	7676	M. E. Weatherbee.....	Stabling.....	6.75
	7677	W. A. Maurer.....	Dining room supplies.....	34.39
	7678	Western Union Telegraph company	Telegrams.....	2.27
	7679	Pryor Bros.....	Printing office supplies....	1.50
	7680	W. A. Goehring.....	Horse shoeing.....	8.00
	7681	India Alkali works.....	Savogran.....	32.62
	7682	B. M. Sargent.....	Shoes.....	25.10
	7683	Council Bluffs Coal and Ice Co....	Coal.....	545.98
	7684	Duquette & Co.....	Entertainment supplies....	14.17
	7685	Metcalf Bros.....	Clothing.....	33.20
	7686	Groneweg & Schoentgen.....	Groceries.....	317.14
	7687	Currie Bros.....	Evergreens.....	16.00
	7688	John Beno & Co.....	Dry goods and clothing....	136.50
	7689	J. B. Atkins.....	General supplies.....	27.25
	7690	Drs. Hanchitt & Smith.....	Medical attendance.....	78.00
	7691	Council Bluffs Gas and Electric Light company.....	House supplies.....	3.13
	7692	Council Bluffs & Omaha Transfer Co	Drayage.....	25.50
	7693	S. T. McAtee.....	Groceries.....	12.25
	7694	Western Electrical Supply Co.....	Electric light supplies....	19.18
	7695	Henry W. Rothert, superintendent	Miscellaneous accounts....	71.23
	7696	Harle, Hass & Co.....	House supplies.....	2.26
	7697	John P. Weaver.....	Repairs.....	10.50
	7698	Crane company.....	Pipe and fitting.....	98.27
	7699	Schultz & Hill.....	Repairs.....	7.20

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896.				
Jan....	7700	American Type Foundry company.	Printing office supplies.....	\$ 4.88
	7701	Charles Lunkley.....	Funeral expense	26.00
	7702	Henry W. Rothert, superintendent	Miscellaneous accounts. .	26.35
	7703	Larkin Soap Mfg. company.....	Soaps	10.00
	7704	Oole & Oole.....	Cooking school supplies....	99.68
	7705	Standard Oil company	Oils	53.25
	7706	A. J. Fuller & Co.	Polish	2 16
Feb....	7707	O. S. Raymond	Table ware	20.00
	7708	Henry W. Rothert, superintendent.	Pay roll, teachers	1,799.94
	7709	Henry W. Rothert, superintendent.	Pay roll, offic'rs and emp's.	1,453.17
	7710	Larkin Soap Manufacturing Co. ...	Soaps.....	10.00
	7711	Gregory Tale Blackb'd Crayon Co..	Blackboard.....	3.30
	7712	John West	Veterinary service	13.00
	7713	Trinity ladies	Mince meat	17.80
	7714	John Seaman	Horses	50.00
	7715	L. A. King	Labor.....	25 00
	7716	Omaha & St. Louis R'y company...	Freight	6.75
	7717	Sprague Iron Works Co.....	Repairs on elevator	19.55
	7718	Thomas Bowman, postmaster	Postage	26.50
	7719	Henry W. Rothert, superintendent	Miscellaneous accounts....	67.85
	7720	J. F. Wilcox	Produce	4.70
	7721	John Beno & Co.....	Dry goods and clothing....	92.88
	7722	C. B. Randlett	Produce.....	24.82
	7723	W. A. Maurer.....	Dining-room supplies	14.80
	7724	Ell Brown.	Groceries.....	133.95
	7725	J. H. Pace.	Meats	433.50
	7726	Council Bluffs Coal and Ice Co.	Coal	699.33
	7727	G. Brandenburg & Co	Shoeshop supplies.....	148.25
	7728	American Type Foundry Co....	Printing office supplies ....	.27
	7729	The Singer Manufacturing Co	Sewing-room supplies	3.65
	7730	Harle, Haas & Co	Drugs, etc.	18.84
	7731	P. O. DeVol.	Hardware.....	21.94
	7732	H. Kohnstamm & Co.	Laundry supplies.....	6.25
	7733	A. L. Bogart	Dynamo lighter.....	5.50
	7734	J. B. Atkins.	General supplies	10.40
	7735	D. W. Bushnell.	Stationery.	21.05
	7736	Groneweg & Schoentgen.	Groceries	519.88
	7737	American Biscuit Mfg. Co. ...	Crackers .....	.50
	7738	Metcalf Bros.....	Clothing	12.20
	7739	Crystal Mill & Grain Co.	Flour and feed.....	66.80
	7740	J. O. Hoffmayr.....	Flour	50.63
	7741	Fowler, Dick & Walker	Dry goods	53.73
	7742	Flieischmann & Co.	Yeast	5.13
	7743	George A. Hoagland.	Lumber.....	83.71
	7744	W. A. Goehring.....	Horseshoeing	11.00
	7745	Drs Hanchitt & Smith	Medical attendance	41.00
	7746	D. S. Pile	Farm supplies	1.40
	7747	M. E. Weatherbee	Stabling.	7.00
	7748	Empkie-Shugart Co.....	Hardware	20.81
	7749	Western Union Telegraph Co.....	Telegrams.....	3.99
	7750	Council B. Paint, Oil and Glass Co..	House supplies	3.75
	7751	The John Van Range Co.	Lining range	11.70
	7752	A. J. Fish & Co.	Grates	5.50
	7753	Carpenter Paper Co.....	Stationery	10.00
	7754	Mrs. M. Pfeiffer.....	Hats	6.50
	7755	Mrs. M. Pfeiffer.....	Hats	6.00
	7756	India Alkali works	Savogran.	33 18
	7757	Armour & Co.	Meats	21.44
	7758	Boardman Bros. & Co.....	Butter	331.20
	7759	W. A. Page Soap company.....	Laundry supplies.	29.04
	7760	Schultz & Hill.....	Repairs	3.03
	7761	Nebraska Telephone company	Rent & outside connections	12.43
	7762	W. W. Chapman	House supplies	1 25
	7763	Union Wire Mattress company.....	Castors.	18.55
	7764	Standard Oil company.....	Oil	86.59
	7765	Crane-Churchill company	Eng neer's supplies.....	23.27
	7766	Morehouse & Co	Binding books	8.25
March.	7767	Henry W. Rothert, superintendent	Pay roll, teachers	529.73
	7768	Henry W. Rothert, superintendent	Pay roll, officers & employes	800.58
	7769	Henry W. Rothert, superintendent	Pay roll, officers & employes	678.73
	7770	Henry W. Rothert, superintendent	Pay roll, teachers.....	1,240.03
	7771	S. O. Bryant & Co.	Locks	53.00
	7772	John Beno & Co.....	Dry goods and clothing	93.12

STATEMENT—CONTINUED.

Date.	ON WHAT ACCOUNT.	Amount.
1896. March	<p>Company. Printing office supplies..... 1.28</p> <p>Meats 307.96</p> <p>Medical attendance 56.75</p> <p>Clothing 36</p> <p>Flour..... 32.62</p> <p>Company. Flour and feed..... 65.45</p> <p>Dining room supplies..... 24.27</p> <p>Shoes... 4.65</p> <p>Produce.. 45.15</p> <p>Groceries 261.66</p> <p>Shoes 36.50</p> <p>Groceries 90.74</p> <p>Co. Telegrams. 2.75</p> <p>Co. Ocal. 485.72</p> <p>Dry goods..... 43.66</p> <p>Lumber..... 42.42</p> <p>Stabling.. 9.75</p> <p>Art room supplies 10.45</p> <p>Butter 192.15</p> <p>Company. Mop sticks. 1.40</p> <p>Sewing room supplies 10.19</p> <p>Thermometer 2.00</p> <p>Company. House supplies 15.02</p> <p>Table ware 20.00</p> <p>Company. Engraving plates.. 21.50</p> <p>Drugs, etc. 7.65</p> <p>Stationery..... 27.42</p> <p>Hardware..... 24.25</p> <p>Yeast 4.52</p> <p>Art room supplies 8.35</p> <p>Engineer's supplies..... 21.10</p> <p>Oils..... 16.85</p> <p>House supplies 6.10</p> <p>Seeds..... 10.25</p> <p>Engineer's supplies..... 4.36</p> <p>Hospital supplies..... 3.20</p> <p>Flowers and house supplies..... 4.70</p> <p>Journal for treasurer..... 7.00</p> <p>Shoes. 14.00</p> <p>General supplies..... 22.27</p> <p>Printing office supplies..... 48.30</p> <p>Seeds 30</p> <p>Engineer's supplies..... 4.45</p> <p>Groceries..... 11.20</p> <p>Art room supplies..... 2.65</p> <p>Engineer's supplies..... 30.75</p> <p>Barrel drainer... 1.75</p> <p>Hardware 1.22</p> <p>Fire clay. 1.75</p> <p>Office supplies..... 6.54</p> <p>Engineer's supplies..... 11.40</p> <p>Laundry supplies..... 6.25</p> <p>Co. Paints..... 5.20</p> <p>Postage and stationery..... 44.22</p> <p>er Miscellaneous accounts ... 183.95</p> <p>endent. Freight 2.67</p> <p>Entertainment supplies .. 10.00</p> <p>Holstein bull..... 40.00</p> <p>Magazines 26.00</p> <p>Pay roll, officers and empl's 1,431.46</p> <p>Pay roll, teachers ... 1,714.34</p> <p>Rent & outside connections 12.00</p> <p>General supplies..... 3.46</p> <p>General supplies..... 46.53</p> <p>Oils 42.00</p> <p>Kitchen supplies..... 51.95</p> <p>Farm supplies ... 20.00</p> <p>Medical attendance 22.50</p> <p>School supplies..... 20.10</p> <p>Flour. 64.75</p> <p>Horseshoeing..... 1.75</p> <p>Hardware 4.15</p> <p>Lamps 1.20</p>	
April.		

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896. April	7846	Boardman Bros. & Co.....	Butter	\$ 240.00
	7847	S. T. McAtee.	Groceries.....	7.75
	7848	Crane-Churchill Co	Pipe and fitting	2.15
	7849	George A Hoagland.....	Lumber.....	22.93
	7850	Harle, Haas & Co	Drugs, etc	6.70
	7851	O. B. Jaquemin & Co.....	Repairs and house supplies	9.50
	7852	S. S. Keller.....	Furniture	18.30
	7853	B. M. Sargent.....	Shoes.....	7.05
	7854	D. S. Pile.....	Harness.....	2.00
	7855	Western Union Telegraph Co.	Telegrams	5.84
	7856	P. O. DeVol.	Hardware	11.08
	7857	Council Bluffs Coal and Ice Co.....	Coal ..	568.25
	7858	Coaline Manufacturing Co	Cement .....	.60
	7859	Council Bluffs & Omaha Transfer Co	Drayage.....	2.00
	7860	Thomas Charles & Co..	Art room supplies	2.25
	7861	Fowler, Dick & Walker.....	Dry goods.....	88.36
	7862	A. G. Spalding & Bros.....	Gymnasium supplies.....	6.55
	7863	Morehouse & Co	Binding books.....	8.75
	7864	The John Van Range company.....	Kitchen supplies.. ..	81.00
	7865	Schultz & Hill	Blacksmithing	9.15
	7866	Carpenter Paper company.....	Office supplies.....	2.04
	7867	Fleischmann & Co	Yeast	5.00
	7868	M. E. Weatherbee	Stabling	7.25
	7869	G. Brandenburg & Co.....	Shoe shop supplies.....	109.08
	7870	W. A. Maurer.....	Dining room supplies.....	4.20
	7871	J. H. Pace	Meats.....	380.72
	7872	American Type Foundry company	Printing office supplies	3.58
	7873	Armour & Co.....	Meats.....	22.27
	7874	Empkie-Shugart company... ..	Hardware.....	37.07
	7875	W. W. Chapman	Art room supplies.....	1.25
	7876	Gronewer & Schoentgen.....	Groceries	312.65
	7877	Council Bluffs Paint, Oil & Glass Co	Paints.....	2.07
	7878	Crystal Mill and Grain company...	Flour.....	63.85
	7879	Ell Brown.....	Groceries.....	68.86
	7880	John Beno & Co	Dry goods and clothing....	128.05
	7881	O. B. Randlett	Provisions.....	88.44
	7882	H. L. Smith & Co.....	Art room supplies	1.70
	7883	The Western Soap company.....	Soaps.....	21.10
	7884	Olint S. Byers.....	Shoes	13.75
	7885	Stewart Bros.....	Groceries.....	190.10
	7886	Lansing Wheelbarrow company....	Trucks, etc.....	23.80
May...	7887	E. R. Schlick	Kitchen supplies.. ..	16.70
	7888	E. S. Lyons.....	Ice.....	159.10
	7889	Chicago, Rock Island & P. Ry. Co..	Freight on ice.....	74.45
	7890	Henry W. Rothert, superintendent.	Pay roll, teachers	1,788.51
June ..	7891	Henry W. Rothert, superintendent.	Pay roll, officers & empl'yes	1,890.27
	7892	Henry W. Rothert, superintendent.	Miscellaneous accounts....	61.05
	7893	A. T. Flickinger	Service as treasurer.....	100.00
	7894	Jenkins Bros.....	Engineers' supplies.....	1.00
	7895	Fleischmann & Co.....	Yeast	4.50
	7896	H. Hardy & Co.	School supplies.....	16.31
	7897	Evans & Howard.....	Fire brick.....	15.00
	7898	J. S. Baughman	Sewing room supplies.....	12.50
	7899	The Bicycle Step Ladder company.	House supplies	21.60
	7900	A. S. McOlurg & Co	Library supplies	3.50
	7901	United States Supply company.....	Engineers' supplies.....	1.30
	7902	H. Kohnstamm & Co.	Laundry supplies.....	6.25
	7903	Rees Printing company	School supplies.....	8.00
	7904	L. W. Williams	Garden supplies	1.20
	7905	Henry W. Rothert, superintendent.	Pay roll, officers & empl'yes	1,413.07
	7906	Henry W. Rothert, superintendent	Pay roll, teachers	1,728.26
	7907	Henry W. Rothert, superintendent.	Petty cash advanced.....	481.07
July...	7908	Chicago, Rock Island & P. Ry Co...	Freight on lumber.....	10.85
	7909	Ark'nsas & Missouri Yellow Pine Co	Lumber	419.47
	7910	Olint S. Byers.....	Shoes	49.65
	7911	Mrs. Theo. Bray	Sewing room supplies	4.81
	7912	H. W. Johns Mfg. company.....	Paints.....	45.20
	7913	Carpenter Paper company.....	Office supplies.....	11.52
	7914	Carpenter Paper Co.....	Printing office supplies....	5.88
	7915	Carpenter Paper Co..	Printing office supplies. ...	69.87
	7916	H. Kohnstamm & Co.....	Laundry supplies.....	11.05
	7917	Feberold Manufacturing Co	Feberold washers.....	5.10
	7918	Hoke Engraving Plate Co..	Printing office supplies	5.37

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896 July...	7919	Paul C Aylsworth.	Farm supplies.	\$ 5.80
	7920	Troy Laundry Machinery Co.	Laundry supplies.	2.00
	7921	Katz Engraving Co.	Entertainment supplies.	10.00
	7922	Armour & Co.	Meats.	25.23
	7923	Machinists' Supply Co.	Boiler house and engineer's supplies.	74.36
	7924	I	Savogran.	22.75
	7925	Electric Light Co.	Electric light supplies.	2.00
	7926		Door springs.	1.75
	7927		Butter.	100.20
	7928		Butter.	122.30
	7929	Blind.	Brooms.	7.50
	7930		Soap chips.	21.55
	7931		Soap chips.	10.00
	7932	ry Co.	Printing office supplies.	5.
	7933	works.	Wire tree guards.	1.25
	7934		Carpets and matting.	42.25
	7935		Subscription.	5.00
	7936		Shoeshop supplies.	87.63
	7937		Shoeshop supplies.	25.15
	7938		Oils.	21.05
	7939		Oils.	14.00
	7940		Engineer's supplies.	22.31
	7941		Engineer's supplies.	12.25
	7942		Bakery supplies.	1.15
	7943	intendent.	Pay roll, officers and employees.	1,120.00
	7944	Henry W. Rother, superintendent.	Pay roll, officers and employees, special.	230.54
	7945	Bell & Kent.	Service as architects.	100.75
	7946	Groneweg & Schoentgen.	Groceries.	291.32
	7947	Empke Shugart Co.	Hardware.	17.00
	7948	Crystal Mill and Grain Co.	Flour and feed.	76.84
	7949	West-Union Telegraph Co.	Telegram.	4.74
	7950	Nebraska Telephone Co.	Telephone rent and outside connection.	12.20
	7951	M. E. Weatherbee.	Stabling.	16.50
	7952	D. S. Pile.	Farm supplies.	1.50
	7953	George A. Hoagland.	Lumber.	26.87
	7954	W. A. Maurer.	Dining room supplies.	20.73
	7955	Eli Brown.	Groceries.	84.27
	7956	J. H. Pace.	Meats.	400.57
	7957	John Beno & Co.	Dry goods and clothing.	116.75
	7958	D. W. Bushnell.	School supplies.	25.40
	7959	S. T. McAttee.	Groceries.	25.40
	7960	J. O. Hoffmayr.	Flour.	10.70
	7961	Shugart & Ouran.	Seeds.	51.75
	7962	Council Bluffs Coal and Ice Co.	Coal.	164.00
	7963	J. B. Atkins.	Drugs, etc.	19.00
	7964	Fowler, Dick and Walker.	Dry goods.	92.40
	7965	J. F. Wilcox.	Flowers.	4.25
	7966	W. A. Goehring.	Horseshoeing.	6.50
	7967	Stephen Bros.	Gas fixtures.	2.50
	7968	O. Younkerman & Co.	Potatoes.	5.75
	7969	Dr. John West.	Veterinary service.	16.00
	7970	Camp Bros.	Hospital supplies.	2.50
	7971	Council Bluffs Gas & Electric L't Co.	Rubber tubing.	.65
	7972	E. O. Brown.	House supplies.	1.50
	7973	J. R. Rice.	Trees.	27.17
	7974	Cole & Cole.	Kitchen supplies.	12.60
	7975	Dr. H. S. West.	Medical attendance.	5.00
	7976	A. O. Rely.	Art supplies.	9.00
	7977	Western Union Telegraph Co.	Telegrams.	.30
	7978	Kennard Glass Co.	Paints.	14.00
	7979	Shugart & Ouran.	Potatoes.	26.00
	7980	Metcalf Bros.	Clothing.	92.25
	7981	Brown & Wesner.	Farm supplies.	4.50
	7982	Crystal Mill and Grain Co.	Flour and feed.	50.25
	7983	Schultz & Hill.	Blacksmithing.	8.25
	7984	Nebraska Telephone Co.	Rent & outside connections.	13.00
	7985	John West.	Medicine for horse.	2.00
	7986	H. O. Raymond.	House supplies.	3.75
	7987	Charles Swaine.	Hardware.	2.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896. July...	7991	W. A. Goehring	Horseshoeing.....	6 00
	7992	L. O. Brackett... ..	Office supplies	2 05
	7993	Martin Hughes & Son.....	Sand	3.05
	7994	D. W. Bushnell.	Stationery	12 35
	7995	O. B. Jacquemin & Co	Glass.....	2 75
	7996	Harle, Haas & Co	Drugs, etc	24 57
	7997	Drs. Hanchitt & Smith.....	Medical attendance.....	33.00
	7998	J. O. Hoffmayr.....	Flour	65.40
	7999	J. H. Pace	Meats	354.89
	8000	John Beno & Co	Dry goods and clothing....	231 55
	8001	Fowler, Dick & Walker.....	Dry goods.....	105.84
	8002	J. B. Atkins.....	General supplies	23 42
	8003	Duquette & Co.....	Groceries and provisions...	165.36
	8004	Groneweg & Schoentgen.....	Groceries	493.72
	8005	J. F. Wilcox.....	Flowers and produce	14 64
	8006	B. M. Sargent.....	Shoes	77 30
	8007	George A. Hoagland.	Lumber	1 71
	8008	Eli Brown.	Groceries	111 55
	8009	Fleischmann & Co.....	Yeast	5.13
	8010	W. A. Maurer.....	Dining room supplies	5 28
	8011	M. E. Weatherbee.....	Stabling	14.75
	8012	J. O. Bixby.. ..	Radiator brushes.....	2.00
	8013	S. T. McAtee	Groceries	13.90
	8014	Council Bluffs Coal and Ice Co.....	Coal	205.03
	8015	The Singer Manufacturing Co.....	Needles.....	.80
	8016	Council Bluffs Paint, Oil & Glass Co	General supplies	15.10
	8017	Stephan Bros.....	House supplies .....	.28
	8018	Empkle, Shugart Co.....	Carpenter shop supplies...	3.49
	8019	Charles Swain.....	Tin roof on house	331.83
	8020	Berger Bros.....	Printing office supplies.....	1.50
	8021	Josiah Danforth	Fountains.....	42.50
	8022	Omaha Bridge and Terminal Co...	Freight on flooring.....	75 60
	8023	George B. Maggeni	Sewing room supplies.....	4.17
	8024	Fleischmann & Co	Yeast	1.63
	8025	D. W. Bushnell	Stationery.....	13.75
	8026	Mrs. M. Pfeiffer	Hats	103 75
	8027	Shugart & Ouran	Seeds.....	1.40
	8028	Mueller Piano and Organ Co.....	Rent of piano.....	25.00
	8029	Crystal Mill and Grain Co.....	Flour and feed	23 05
	8030	W. A. Maurer	Dining room supplies	24 07
	8031	O. B. Randlett	Produce	22.82
	8032	Harle, Haas & Co	Drugs, etc	5.69
	8033	P. O. DeVol	Hardware	54.24
	8034	W. A. Goehring	Horseshoeing	7.75
	8035	Henry H. Van Brunt	Farm supplies	11.00
	8036	Henry H. Van Brunt.....	Swing	11 50
	8037	American Express Co	Fish.....	14.64
	8038	Groneweg & Schoentgen.....	Groceries	127 09
	8039	Drs. Hanchitt & Smith	Medical attendance.....	1 00
	8040	Council Bluffs Carpet Co	Carpet paper.....	2.00
	8041	O. B. Coal and Ice Co	Coal.....	129.79
	8042	Nebraska Telephone Co	Rent and outside con'ct'ns	11 63
	8043	John Beno & Co.....	Dry goods and clothing...	83.51
	8044	J. H. Pace	Meats.....	205.16
	8045	Eli Brown	Groceries	57.05
	8046	Fowler, Dick & Walker.....	Dry goods.....	18.09
	8047	M. E. Weatherbee	Stabling.....	3.75
	8048	S. T. McAtee.....	Groceries	21.90
	8049	Western Union Telegraph company	Telegrams	5.35
	8050	P. O. De Vol.....	Tin roof on house.....	114.48
	8051	Vogeler & Son	Farm supplies.....	4.15
	8052	Stephan Bros.....	Bath room fixtures.....	68.50
	8053	Duquette & Co	Produce	45.32
	8054	Council Bluffs Paint, Oil & Glass Co	Paints and brushes.....	13.70
	8055	P. O. De Vol	Hardware.....	22.91
	8056	Western Electrical Supply Co.....	Electric light supplies.....	74.07
	8057	George A. Hoagland.....	Lumber	45.99
	8058	Orane-Churchill company.	Pipe and fitting	54 77
	8060	B. M. Sargent.....	Shoes	2.00
	8061	Henry W. Rothert, superintendent	Miscellaneous accounts....	109.60
Aug...	8062	Henry W. Rothert, superintendent	Pay roll, repairs	288 10
	8063	Henry W. Rothert, superintendent	Pay roll, strengthen'g west or boys' wing	126 00

STATEMENT—CONTINUED.

Date	Warrant	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896				
Aug...	8064	Henry W. Rother, superintendent	Pay roll, officers & employees	\$ 92.00
	8065	Henry W. Rother, superintendent	Miscellaneous accounts	70.25
	8066	A. Wallenberg	Setting boilers, payment on contract	100.00
	8067	Henry W. Rother, superintendent	Pay roll, boiler and engine house & additional boiler	140.00
	8068	N. W. Williams	Strengthening west or boys' wing	107.25
	8069	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	1,000.00
	8070	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	800.00
	8071	P. H. Wind	Repair supplies	17.25
	8072	Henry W. Rother, superintendent	Pay roll, repair	84.00
	8073	Henry W. Rother, superintendent	Pay roll, repair to children's dining room	25.00
	8074	Henry W. Rother, superintendent	Pay roll, repairs	175.00
	8075	Henry W. Rother, superintendent	Pay roll, strengthen'g west or boys' wing	64.00
	8076	Henry W. Rother, superintendent	Pay roll, strengthen'g west or boys' wing	60.00
	8077	Henry W. Rother, superintendent	Pay roll, repairs to children's dining room	22.50
Sept...	8078	Henry W. Rother, superintendent	Pay roll, officers & employees	207.25
	8079	Henry W. Rother, superintendent	Pay roll, repairs	22.25
	8080	A. Wallenberg	Setting boilers, payment on contract	100.00
	8081	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	400.00
	8082	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	400.00
	8083	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	1,000.00
	8084	W Electrical Supply Co.	Electric light supplies	4.00
	8085	W Electrical Supply Co.	Electric light supplies	20.10
	8086	W Electrical Supply Co.	Electric light supplies	74.25
	8087	O Paper company	Printing office supplies	1.00
	8088	H Paint Mfg. company	Paints	41.00
	8089	Taken Steam Specialty Co.	Engineer's supplies	14.00
	8090	F. Oil	Engineer's supplies	12.00
	8091	A Co.	Hams	12.00
	8092	A Battery company	Electric light supplies	25.75
	8093	Ernecke & Balmstein	Paints	22.50
	8094	Blanchard & Place	Engraving diplomas	1.00
	8095	F. M. Russell	Electric light supplies	2.00
	8096	Creamery Package Mfg. company	Dairy supplies	11.25
	8097	Carter Hardware company	Hardware	1.50
	8098	Clark & Wetzel	Sewing room supplies	6.00
	8099	E. O. Newton	Cow tie chains	1.00
	8100	Udal Woodenware Co.	Ladders	12.00
	8101	G. Brandenburg & Co.	Shoe shop supplies	12.50
	8102	Monash, Younker & Co.	Steam separator	22.00
	8103	Frank Mathiesen for Machinists Supply Co.	Nippers	1.75
	8104	Frank Mathiesen for Machinists Supply Co.	Engineer's supplies	15.00
	8105	The John Van Range Co.	Repair coffee and tea urns and kitchen supplies	100.00
	8106	The Bridgeport Wood Finish'g Co.	Paints and brushes	14.00
	8107	The Bridgeport Wood Finish'g Co.	Paints	12.50
	8108	The Bridgeport Wood Finish'g Co.	Paints	20.00
Oct...	8109	Henry W. Rother, superintendent	Pay roll, officers and employees	1,202.00
	8110	Henry W. Rother, superintendent	Pay roll, teachers	1,202.75
	8111	A. Wallenberg	Setting boilers, payment on contract	700.00
	8112	A. Wallenberg	Setting boilers, payment on contract	700.00
	8113	Peter Fawcett	New boiler and fittings	600.00
	8114	Bell & Kent	Plans for annex to boiler house	10.00
	8115	Henry W. Rother, superintendent	Miscellaneous accounts	20.25
	8116	J. B. Atkins	Drugs, etc.	21.00
	8117	J. B. Atkins	Drugs, etc.	21.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896.				
Oct....	8118	J. B. Atkins	Paints	\$ 143.70
	8119	J. B. Atkins	Paints and drugs	66.57
Nov. ..	8120	John F. Schultz	Plants	2.50
	8121	M. E. Weatherbee	Stabling	4.00
	8122	New Nonpareil Co.	Subscription	7.80
	8123	D. S. Pile	Farm supplies	1.50
	8124	Western Union Telegraph Co.	Telegrams	1.42
	8125	United States Supply Co.	Engineer's supplies .....	.50
	8126	John Van Range Co.	Range repairs .....	.60
	8127	United Typewriter & Supply Co. ..	Repair typewriter	7.10
	8128	Darfee Furniture Co.	Mirrors	7.00
	8129	M. E. Weatherbee	Stabling	8.00
	8130	Vogler & Son.	Farm supplies	5.65
	8131	M. Wallman	Clocks	7.50
	8132	Henry H. Van Brant	Mower section bolts	2.70
	8133	D. S. Pile	Harness	1.25
	8134	O. Younkerman & Co.	Garden supplies	1.75
	8135	Council B. Gas & Electric Light Co.	Rubber tubing .....	.65
	8136	L. D. Lutzinger	Repair locks and keys.	7.55
	8137	Richmond Safety Gate Co.	Rack bar to elevator	1.50
	8138	F. M. Russell	Repairs .....	.85
	8139	United Typewriter and Supply Co.	Repair typewriter	1.50
	8140	W. T. Oltmus & Co.	Engineer's supplies	1.50
	8141	American Type Foundry Co.	Printing office supplies	6.80
	8142	W. D. Allen & Co.	Engineer's supplies	1.18
	8143	Carter Hardware Co.	Door-latch and key	1.50
	8144	Council B. Gas & Electric Light Co.	Rubber tubing	1.50
	8145	J. F. Findley	Sewing machine oil .....	.75
	8146	Frank E. Fitts Mfg. & Supply Co. ..	Paints	6.50
	8147	H. Kohnstamm & Co.	Laundry supplies	8.75
	8148	J. Lutzinger	Bread	3.00
	8149	Pryor & Son	Printing ink	2.00
	8150	D. S. Pile	Harness .....	.20
	8151	Milton Rogers & Son	Sauce pans	2.75
	8152	Schultz & Hill	Blacksmithing	4.00
	8153	Thomas Charles & Co.	School supplies	4.95
	8154	Western Union Telegraph Co.	Telegrams	6.58
	8155	J. M. Williams	Stabling .....	.90
	8156	The Mason Regulator Co.	Piston for valve	1.00
	8157	Boston Electric Co.	Electric light supplies .....	.85
	8158	Crane Elevator Co.	Cylinder packing	2.50
	8159	Kilbourne-Jacobs Mfg. Co.	Timber dollies	5.00
	8160	N. O. Nelson Mfg. Co.	Wire brooms .....	.85
	8161	George B. Chapman	Picture frames	1.00
	8162	Nebraska Telephone Co.	Rent & outside connections	12.43
	8163	Nebraska Telephone Co.	Rent & outside connections	11.83
	8164	Nebraska Telephone Co.	Rent & outside connections	14.73
	8165	Nebraska Telephone Co.	Rent & outside connections	13.43
	8166	Western Union Telegraph Co.	Telegrams	11.98
	8167	J. Lutzinger	Bread	6.95
	8168	Peter Henderson & Co.	Seeds	35.00
	8169	Henry W. Rothert, superintendent.	Pay roll, teachers	1,718.27
	8170	Henry W. Rothert, superintendent.	Pay roll, officers & employees	1,462.83
	8171	Stephan Bros.	Gas fixtures	6.02
	8172	Council Bluffs & Omaha Transfer Co.	Drayage	10.00
	8173	Ell Brown	Groceries	101.91
	8174	J. H. Pace	Meats	121.87
	8175	W. A. Goehring	Horseshoeing	4.50
	8176	John Beno & Co.	Dry goods and clothing	37.29
	8177	D. W. Bushnell	Stationery	5.30
	8178	Groneweg & Schoentgen	Groceries	128.70
	8179	W. A. Maurer	House supplies	10.13
	8180	Omaha Daily Bee	Subscription	12.00
	8181	P. O. De Vol	Hardware	8.85
	8182	Metcalf Bros.	Clothing	9.06
	8183	Standard Oil Co.	Coal oil	25.70
	8184	Standard Oil Co.	Coal oil	16.06
	8185	S. T. McAtee	Groceries	6.10
	8186	John West	Veterinary service	12.00
	8187	Harle, Haas & Co.	Drugs, etc.	1.86
	8188	Crane-Churchill Co.	Engineer's supplies	1.59
	8189	Duquette & Co.	Groceries	9.85
	8190	The Western Soap Co.	Soap chips	9.75

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896.				
Nov....	8191	Council Bluffs Carpet Co.	Carpets	\$ 124.45
	8192	O. W. Graham	Office railing	31.25
	8193	Council Bluffs Paint, Oil & Glass Co	Paints and brushes	22.46
	8194	Fowler, Dick & Walker	Wall paper and paper hang- ing and dry goods	74.15
	8195	Schultz & Hill	Blacksmithing and repairs	50.95
	8196	Philip Kilian	Painting	25.00
	8197	Empkle-Shugart Co	Hardware	25.54
	8198	Wickham Bros	Strengthening west or boys' wing	225.25
	8199	George A. Hoagland	Lumber	62.19
	8200	Council Bluffs Coal and Ice Co.	Coal	104.43
	8201	Machinists Supply Co.	Vulcanizum rope packing	1.00
	8202	Council Bluffs Coal and Ice Co.	Coal	96.27
	8203	Council Bluffs Coal and Ice Co.	Ice	75.43
	8204	Stephan Bros.	Gas fixtures	6.47
	8205	Olin S. Byers	Shoes	9.46
	8206	W. A. Goehring	Horseshoeing	9.40
	8207	John Beno & Co	Dry goods	24.54
	8208	Glgray & Nicholls	Miter box	14.00
	8209	S. T. McAtee	Groceries	22.25
	8210	W. A. Maurer	Fruit keepers	4.73
	8211	D. W. Bushnell	School supplies	104.00
	8212	Duquette & Co	Produce	21.57
	8213	Harle, Haas & Co	Drugs, etc.	2.51
	8214	Fowler, Dick & Walker	Dry goods	15.24
	8215	Hammer Lumber company	Lumber	61.23
	8216	O. W. Graham	Repair supplies	41.45
	8217	Boston store	House supplies	15.79
	8218	J. B. Long	Wall paper & hanging same	105.79
	8219	E.	Repair supplies	14.33
	8220	C.	Paints and brushes	17.27
	8221	J.	Sewer pipe	21.04
	8222	U.	School desks	72.30
	8223	G.	Lumber	73.90
	8224	N.	Repair supplies	223.54
	8225	J.	Brick and sand	9.23
	8226	T.	Repair sewing machines	10.43
	8227	H.	Water motor	61.60
	8228	A.	Shelf brackets	20.23
	8229	A.	Fish	10.00
	8230	E.	Paints	112.50
	8231	O.	Window screens	46.00
	8232	W.	Smoke stack	700.00
	8233	SI.	Books	101.50
	8234	H.	Books	30.00
	8235	H.	Blackboards	125.30
	8236	S. B. Bryant	Carpenters' tools	150.00
	8237	Armour & Co	Hams	37.07
	8238	Henry W. Rother, superintendent.	Miscellaneous accounts	46.02
	8239	E. B. Schlick	Kitchen supplies	30.50
	8240	A. Wallenberg	Setting boilers, payment on contract	215.00
Dec....	8241	Henry W. Rother, superintendent.	Miscellaneous accounts	62.12
	8242	Orchard & Wilhelm Carpet Co.	Furniture	10.00
	8243	John P. Weaver	Boiler & eng. house & addl. boiler, payment on cont.	200.00
	8244	Wickham Bros	Mason work and setting sewer pipe	55.75
	8245	Empkle-Shugart company	Hardware	16.12
	8246	Thomas Tostaven	Survey for building	7.00
	8247	Council Bluffs Carpet company.	Repair supplies	171.27
	8248	Groneweg & Schoentgen	Groceries	150.50
	8249	J. H. Pace	Meats	125.30
	8250	P. O. DeVol	Hardware	12.00
	8251	Eli Brown	Groceries	34.47
	8252	Sherwood Manufacturing company	Steam trap	15.00
	8253	Jenkins Bros.	Jenkins' 26"	11.10
	8254	J. B. Long	Wall paper & hanging same	24.25
	8255	Council Bluffs Paint, Oil & Glass Co	Paints, oil and glass	23.70
	8256	Western Electrical Supply Co.	Electric light supplies	15.00
	8257	Sprague Iron works	Foundry work, pipe thr'd'ng	100.40
	8258	The Cong'l S. S. and Pub. Society..	Sunday School paper	15.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1896 Dec....	8259	India Alkali works.....	devogran	\$ 31.08
	8260	Troy Laundry Machinery Co.....	Mangle covering	14.19
	8261	Boardman Bros & Co	Butter	175.82
	8262	The Western Soap Co.....	Soap chips	20.19
	8263	E	Groceries	112.38
	8264	I	Stationery.....	114.45
	8265	J	Dry goods and clothing... ..	112.32
	8266	G & Co.....	Shoe shop supplies.....	112.82
	8267	J	Meats	283.41
	8268	hoentgen	Groceries	490.82
	8269	V	Dining room supplies.....	152.50
	8270	H	Hardware	8.78
	8271	C	Flour and feed	60.85
	8272	C	Printing office supplies.....	40.10
	8273	C	Coal	154.42
	8274	C	Ice	82.55
	8275	Duquette & Co	Groceries	52.51
	8276	Fowler, Dick & Walker	Dry goods	271.67
	8277	W. A. Goehring.....	Horseshoeing	7.50
	8278	Harle, Haas & Co.....	Drugs, etc	31.97
	8279	Drs. Hanchitt & Smith	Medical attendance.. ..	36.75
	8280	P. O. DeVol	Hardware	87.27
	8281	B. M. Argent	Shoes.....	2.00
	8282	M. E. Weatherbee	Stabling	11.25
	8283	Sarah B. B. Rohrer	Rent of pasture.....	150.00
	8284	J. O. Hoffmayr	Flour	51.75
	8285	George A. Hoagland.....	Lumber.....	17.10
	8286	S. S. Keller	Furniture.....	181.65
	8287	S. T. McAtee.....	Groceries.....	7.82
	8288	Hex Lumber Co.....	Lumber.....	55.40
	8289	C. B. Randlett.....	Groceries.....	14.90
	8290	Day & Hess	Rent of pasture.....	15.00
	8291	Hollenbeck Bros.....	Moving boilers	105.85
	8292	Henry W. Rothert, superintendent.	Pay roll, teachers	1,633.27
	8293	Henry W. Rothert, superintendent.	Pay roll, officers and employees.. ..	1,474.53
	8294	John P. Weaver.....	Boiler and engine house and additional boiler, payment on contract.. ..	175.25
	8295	John P. Weaver	Boiler and engine house, extra work.....	34.63
	8296	John P. Weaver	Pump foundation.....	202.25
	8297	John P. Weaver	Raising pump foundation.. ..	2.00
	8298	John P. Weaver	Repairs in kitchen	7.75
	8299	Herman Martin	Potatoes.....	80.90
	8300	Olint S. Byers	Shoes	47.50
	8301	Olint S. Byers	Shoes	28.05
	8302	Nebraska Telephone Co.....	Rent and outside connections	12.92
	8303	Nebraska Telephone Co.....	Rent and outside connections.. ..	12.02
	8304	Martin Hughes & Son	Sidewalk and roadways	272.75
	8305	Martin Hughes & Son	Sidewalk and roadways.....	200.00
1897 Jan....	8306	Henry W. Rothert, superintendent.	Pay roll, teachers	1,633.27
	8307	Monash Vanakas & Co	Engineer's supplies.....	2.95
	8308	B	Books	5.83
	8309	W	Electric lamps.....	57.33
	8310	I	Engineer's supplies.....	1.50
	8311	L	Belt dressing	3.00
	8312	U	School desks	145.80
	8313	O	Engineer's supplies.....	21.22
	8314	H	Three pumps and fittings.. ..	846.00
	8315	O	Bakery supplies	12.10
	8316	H	Laundry supplies.....	125.00
	8317	P	Flower seeds	12.25
	8318	H	Pay roll, officers and employees.. ..	1,472.45
	8319	A. J. Fish & Co.....	Grate bars in bake oven... ..	5.20
	8320	Hoke Engraving Plate Co.....	Printing press plates.....	2.50
	8321	Frank E. Fatta Mfg. Supply Co. ...	Paints	12.00
	8322	Augustus Thomas & Co.....	Blankets.....	150.20

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1907.				
Jan....	8323	Armour Packing Co..	Meats	\$ 41.79
	8324	A. G. Spalding & Bro.....	Gymnasium supplies.....	2.00
	8325	John West	Veterinary service.....	15.00
	8326	John West	Veterinary service.....	5.00
	8327	Fleischmann & Co.....	Yeast	2.25
	8328	Wilson & Drake	Repairs on boilers and boiler breeching	217.00
	8329		Carpets, rugs, etc.....	34.50
	8330		Coal oil	74.00
	8331		Furniture	115.25
	8332		Gas fixtures	1.50
	8333		Flour	62.45
	8334		School supplies.....	137.34
	8335		Shoe shop supplies	3.15
	8336		Printing office supplies...	4.54
	8337		Iron doors	25.00
	8338		Flour and feed	57.00
	8339		Electric light supplies.....	3.00
	8340		Sewer pipe	8.50
	8341		Groceries.....	205.15
	8342		Hardware.....	18.00
	8343		Drugs, etc.....	0.25
	8344		Telegrams	2.12
	8345		Stabling	0.00
	8346		Hardware.....	1.00
	8347		Veterinary service.....	12.00
	8348		Harness.....	2.50
	8349		Groceries.....	145.22
	8350		Dining room supplies.....	5.40
	8351	Co	General supplies	2.00
	8352	Co	Rubber tubing .....	.00
	8353		Shoes	12.55
	8354		Cutting and threading pipe	22.10
	8355		House supplies	12.12
	8356		Dry goods and clothing	105.00
	8357		Sewing room supplies	10.00
	8358		Groceries	17.10
	8359		Butter	125.04
	8360		Groceries.....	60.07
	8361		Medical attendance.....	74.00
	8362		Flowers	7.40
	8363		Blacksmithing	2.15
	8364		Portland cement.....	1.00
	8365		Horseshoeing	2.00
	8366		Dry goods	115.00
	8367		Farm and garden supplies..	1.25
	8368		Coal	400.15
	8369		Hardware	25.25
	8370		General supplies	63.50
	8371		Yeast	5.00
	8372	Council Bluffs Coal and Ice Co.....	Ice	91.72
	8373	Henry W. Rothert, superintendent	Miscellaneous accounts.....	50.27
	8374	G. S. Blakeslee & Co.....	Dishwashing machine	207.91
	8375	Iowa State Register	Subscriptions	14.25
	8376	American Elec. Heating corporation	Electric stoves	9.00
	8377	India Alkali works	Savogran	31.20
	8378	M. J. Cunniff	Sewing room supplies.....	2.05
	8379	J. O. Vaughn	House supplies	5.75
	8380	Augustus Thomas & Co	Crash and blankets.....	22.00
Feb ...	8381	B. A. Tylor	Ice	105.05
	8382	Chicago & North-Western Ry Co..	Freight	1.25
	8383	Chicago, Burlington & Q. Ry. Co...	Freight	3.72
	8384	Chicago Fire Proof Covering Co ..	Pipe covering.....	144.20
	8385	Boardman Bros. & Co	Butter	164.16
	8386	Boardman Bros. & Co	Butter	202.00
	8387	C., M. & St. P. Ry Co.....	Freight	4.00
	8388	George B. Chapman	Picture frames	4.75
	8389	George B. Chapman.....	Art supplies.....	9.00
	8390	L. O. Williams	Groceries and provisions.....	25.65
	8391	Henry W. Rothert, superintendent	Miscellaneous accounts.....	126.00
	8392	C. & N.-W. Ry. Co.....	Freight.....	19.50
	8393	C., B. & Q. Ry. Co.	Freight.....	16.75
	8394	C., B. & Q. Ry. Co.....	Freight.....	4.00

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1897 Feb....	8395	O., B. & Q. Ry. Co.....	Freight.....	8 54 00
	8396	O., B. & Q. Ry. Co.....	Freight.....	16.96
	8397	O., B. & Q. Ry. Co.....	Freight.....	6 56
	8398	O., B. & Q. Ry. Co.....	Freight.....	24.00
	8399	O. & N.-W. Ry. Co.	Freight.....	19.89
	8400	O. & N.-W. Ry. Co.....	Freight.....	10.76
	8401	O. & N.-W. Ry. Co.....	Freight.....	8.44
	8402	O., B. & Q. Ry. Co.....	Freight....	1.71
	8403	O., M. & St. P. Ry. Co.	Freight.....	1.02
	8404	O., & N.-W. Ry. Co.....	Freight.....	2.80
	8405	O., B. & Q. Ry. Co.....	Freight.....	.37
	8406	O., B. & Q. Ry. Co.....	Freight.....	.80
	8407	O., B. & Q. Ry. Co.....	Freight.....	.50
	8408	O. & N.-W. Ry. Co.....	Freight.....	.80
	8409	O. & N.-W. Ry. Co.....	Freight.....	.82
	8410	Thomas Bowman, postmaster	Postage	26 55
	8411	O. L. Gillette.....	Painting.....	12 00
	8412	O. L. Gillette..	Painting.....	8.75
	8413	O. & St. L. Ry. Co.....	Freight on ice.....	25.00
	8414	J. B. Atkins.....	Drugs, etc.....	26.12
	8415	J. B. Atkins.....	Drugs, etc.....	31.27
	8416	J. B. Atkins ..	Drugs, etc.....	30.80
	8417	J. H. Pace.....	Meats	411.04
	8418	O., B. & Q. Ry. Co.....	Freight	1.26
	8419	H. A. Cox.....	Coal.....	104.06
	8420	Western Electrical Supply Co.....	Electric light supplies.	9.10
	8421	United States Supply Co	Vulcabeston rope packing.	4.80
	8422	The Singer Manufacturing Co.....	Sewing machine needles ...	.30
	8423	O. B. Randlett	Groceries	5.40
	8424	O. B. Jacquemin & Co.....	Clock and repairing clock..	5.75
	8425	Western Union Telegraph Co.....	Telegrams	1.67
	8426	Stephan Bros.	Gas lamps and tubing.....	5.35
	8427	Hammer Lumber Co.....	Lumber.	54.37
	8428	John West	Veterinary service.....	18.00
	8429	Schultz & Hill	Blacksmithing	2.40
	8430	Drs. Hanchitt & Smith.....	Medical attendance.....	46 50
	8431	B. A. Tyler.....	Hauling ice.....	23.60
	8432	M. E. Weatherbee	Stabling	14.50
	8433	S. T. McAtee.....	Groceries	18.85
	8434	P. C. De Vol.....	Hardware.....	5.45
	8435	Harle. Haas & Co.....	Drugs, etc.....	9.80
	8436	Council Bluffs Coal and Ice Co.....	Coal	702.55
	8437	Eli Brown.	Groceries	123 48
	8438	John Rowe & Co	General supplies.....	11 75
	8439	S. M. Williams.....	Sewing machine stands..	1 50
	8440	Rex Lumber Co.....	Lumber.....	34 30
	8441	Trinity ladies.....	Mince meat.....	10 20
	8442	S. S. Keller	Furniture.....	15.50
	8443	D. W. Bushnell.....	Stationery	41 78
	8444	W. A. Goehring.....	Horseshoeing.....	8 00
	8445	Duquette & Co.....	Groceries	65.70
	8446	J. O. Hoffmayr.....	Flour	65 25
	8447	Stewart Bros.....	Groceries	179 40
	8448	John Beno & Co.....	Dry goods and clothing....	45 45
	8449	J. H. Pace.....	Meats	388 72
	8450	W. A. Maurer.....	Dining room supplies	70 07
	8451	Carpenter Paper Co.....	Printing office supplies.....	27.84
	8452	Metcalf Bros.....	Clothing.....	81.45
	8453	G. Brandenburg & Co.....	Shoe shop supplies.....	120.52
	8454	Flerschmann & Co.....	Yeast.....	4.50
	8455	Standard Oil Co	Coal oil	35.94
	8456	American Express Co	Salmon	10 00
	8457	Crystal Mill and Grain Co.....	Flour and feed.....	78 10
	8458	Groneweg & Schoentgen.....	Groceries	302.89
	8459	Empkie, Shugart Co.	Hardware.....	23 39
	8460	Fowler, Dick & Walker.....	Dry goods	68 30
	8461	Western Soap Co.	Soap chips	19.10
	8462	George A. Hoagland.....	Portland cement .....	.95
	8463	J. T. Findley.....	Sewing machine stands...	2 50
	8464	Clark & Wetzel	Sewing room supplies.....	4 40
	8465	United States Supply Co.....	Electric light supplies.....	2.00
	8466	Standard Oil Co	Oils	19.78
	8467	Charles Swaine	Hardware.....	5.70

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1897				
Feb...	8468	W	Soap chips	20.25
	8469	G	Shoe shop supplies .....	.30
	8470	B	Dry goods	61.70
	8471	J	Dry goods and clothing...	264.86
	8472	E	Groceries	220.08
	8473	J	Meats	216.15
	8474	C	Ice Co.	664.50
	8475	P	Hardware	11.49
	8476	D	Medical attendance	97.00
	8477	J	Veterinary service	21.00
	8478	M	Stabling	10.00
	8479	S	Groceries	27.40
	8480	H	Medical attendance	1.00
	8481	L	Stationery	3.88
	8482	B	Blacksmithing	2.35
	8483	W	aph Co.	6.19
	8484	W	Dining room supplies.....	29.79
	8485	N	Rent & outside connections	12.72
	8486	E	Hardware.....	16.77
	8487	E	Hardware	1.54
	8488	D	Stationery	25.45
	8489	C	Oil & Glass Co	6.15
	8490	W	Horseshoeing	4.00
	8491	C	Printing office supplies. ..	39.89
	8492	G	Building paper	1.34
	8493	C	Shoes	24.50
	8494	H	Drugs, etc	24.88
	8495	F	Yeast	5.62
	8496	L	Trunk keys	2.29
	8497	O	Groceries.....	7.65
	8498	M	Clothing	12.02
	8499	B	Shoes	11.25
	8500	J	Flour	67.25
	8501	W	Electric light supplies	12.76
	8502	C	Flour and feed	64.80
	8503	S	Furniture..	9.00
	8504	D	Gr. cerics and provisions...	78.56
	8505	Camp Bros	Hospital supplies	2.25
	8506	Gronaweg & Schoentgen	Groceries	261.27
	8507	P. H. Wind....	Extra work on boiler and engine house	36.20
	8508	Bex Lumber Co.	Lumber	22.45
	8509	Gilbert Bros	Ice..	25.50
	8510	Henry W. Rothert, superintendent.	Pay roll, teachers	1,700.94
	8511	Henry W. Rothert, superintendent.	Pay roll, officers & employ's	1,446.40
	8512	John G. Woodward & Co.	Entertainment supplies....	8.00
	8513	Dally Bee.	Subscription	2.90
	8514	Mrs. Minnie Pfeiffer.....	Hats	2.00
	8515	P. O. De Vol.	Hardware	15.26
	8516	Troy Laundry Machine Co.....	Irons for laundry	5.40
	8517	Armour Packing Co.	Hams	12.75
	8518	Metos'f Bros	Clothing	42.64
	8519	W. A. Goehring.	Horseshoeing.....	10.00
	8520	American Type Foundry Co	Printing office supplies.....	6.75
	8521	Council Bluffs Paint, Oil & Glass Co	General supplies	8.61
	8522	B. M. Sargent.....	Shoes	17.25
	8523	W. A. Maurer	Dining room supplies.....	40.21
	8524	Darfee Furniture Co.	Furniture.....	16.00
	8525	J. O. Hoffmayer	Flour	67.25
	8526	George A. Hoagland.	Lime	1.80
	8527	F. B. Kennard	Repair supplies.....	6.10
	8528	Cole & Cole.	Kitchen supplies	12.47
	8529	H. O. Raymond	House supplies	2.22
	8530	Crystal Mill and Grain Co	Flour and feed.....	167.60
	8531	Fleischmann & Co	Yeast	4.50
	8532	Oster Hardware Co.	Lanterns.	1.75
	8533	United States Supply Co	Engineer's supplies.....	9.43
	8534	Duquette & Co.	Groceries	54.35
	8535	Empke-Shugart Co.....	Hardware.....	14.72
	8536	D. W. Bushnell.	School supplies..	46.90
	8537	Western Union Telegraph Co.....	Telegrams	3.51
	8538	Ell Brown.	Groceries	59.94
	8539	M. E. Weatherbee.....	Stabling.....	7.75

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1897 Feb....	8540	John West	Veterinary service	18.00
	8541	Olint S. Byers.....	Shoes	28.90
	8542	Harle, Haas & Co.....	Drugs, etc	6.75
	8543	Drs. Hanchitt & Smith	Medical attendance	129.75
	8544	Rex Lumber company.....	Lumber.....	27.50
	8545	John Van Range & Co.....	Kitchen supplies.....	4.87
	8546	O. B. Randlett.....	Groceries and provisions... ..	2.15
	8547	S. T. McAtee.....	Groceries	7.30
	8548	Carpenter Paper company	Printing office supplies.....	29.10
	8549	Richmond Safety Gate company...	Elevator repairs.....	3.00
	8550	M. J. Cuning & Co.....	Sewing room supplies	1.65
	8551	H. H. Spetman.....	Groceries	2.00
	8552	American Express company.....	Salmon.....	5.50
	8553	Stephan Bros.....	Engineers' supplies.....	11 90
	8554	J. Sullivan.....	Pop corn.....	1.30
	8555	Richmond Safety Gate company...	Elevator repairs	4.00
	8556	G. Brandenburg & Co....	Shoe shop supplies.....	144.68
	8557	Nebraska Telephone company	Rent & outside connections	11.83
	8558	E. Zabriskie, receiver.....	Name plates.....	4.00
	8559	Fowler, Dick & Walker	Dry goods	123 42
	8560	Henry W. Rothert, superintendent.	Petty cash advanced.....	655.40
	8561	W. A. Wickham	Railroad fare for pupil.....	5.60
	8562	Omaha Carpet and Rug company ..	Rugs	18 00
	8563	Chicago, Burlingt'n & Quincy Ry Co	Freight.....	4.70
	8564	Chicago, Burlingt'n & Quincy Ry.Co	Freight.....	12.45
	8565	Henry W. Rothert, superintendent.	Petty cash advanced.....	284 09
	8566	Walker Manufacturing company...	Office supplies	3 00
	8567	Ben Freeze.....	Labor	25.00
	8568	L. Green.....	Weather strips	25.00
	8569	T. W. Mathews.....	Maps.....	4.80
	8570	Thomas Bowman, postmaster.....	Postage	20.00
	8571	Henry W. Rothert, superintendent	Petty cash advanced.....	149.40
	8572	Omaha & St. Louis Railway Co.....	Freight .....	.35
	8573	Council Bluffs Carpet company	House supplies.. ..	68.83
	8574	Henry W. Rothert, superintendent.	Petty cash advanced.....	73.32
	8575	Henry W. Rothert, superintendent	Miscellaneous accounts	11.54
	8576	H. L. Smith.....	Art supplies.....	.30
	8577	Henry R. Worthington	Engineer's supplies.....	8 00
	8578	Henry R. Worthington	Engineer's supplies.....	5.30
	8579	Henry W. Rothert, superintendent.	Pay roll, teachers.....	1,668.27
	8580	Henry W. Rothert, superintendent.	Pay roll, officers & employes	1,409.82
	8581	Henry R. Worthington	Balance on pumps.....	13 93
	8582	S. B. Bryant & Co	Carpenter shop supplies	4.50
	8583	Peter Henderson & Co.....	Flower seeds	2.70
	8584	Charles H. Harper	Printing office supplies	16.65
	8585	India Alkali works.....	Savogran	31.72
	8586	Dearbourn Drug & Chemical works	Engineer's supplies.....	37 72
	8587	Ernecke & Salmstein	Paints.....	12.50
	8588	G. S. Blakeslee & Co	Repairs, dish wash'g mach.	20 22
	8589	A. G. Spalding & Bros.....	Gymnasium supplies.....	7.00
	8590	The Bicycle Step Ladder company.	Engineer's supplies.....	12.70
	8591	Boardman Bros. & Co.....	Butter	180.00
	8592	M. E. Weatherbee.....	Stabling	5.75
	8593	Mrs. Theo. Bray.....	Sewing room supplies	4.96
	8594	Sandwich Manufacturing Co.....	Farm supplies	1.50
	8595	Schultz & Hill	Blacksmithing	1.80
	8596	Western Union Telegraph Co.....	Telegrams	2 72
	8597	Sprague Iron Works Co.....	Threading pipe.....	19.25
	8598	Clark & Wetzel.....	Sewing room supplies.....	7.05
	8599	J. B. Atkins.....	Drugs, etc	14.09
	8600	Nebraska Telephone Co.....	Rent and outside con'ct'ns	11.73
	8601	Vogeler & Son	Farm supplies	6.50
	8602	Stephan Bros	House supplies	7.25
	8603	George A. Hoagland.....	Lumber	4.20
	8604	John West	Veterinary service.....	12.00
	8605	Augustus Thomas & Co.....	Dry goods.	26 69
	8606	B. M. Sargent	Shoes	21.75
	8607	W. A. Maurer.....	Dining room supplies.....	9.56
	8608	S. T. McAtee	Groceries.....	13.01
	8609	P. O. DeVoi.....	Hardware.....	11.07
	8610	Fowler, Dick & Walker.....	Dry goods	19 39
	8611	J. J. Barton.....	Produce	20.24
	8612	Precella Publishing Co.....	Magazines.....	5.02
March.				

STATEMENT—CONTINUED.

Date.	Warrant.	TO WHOM PAID.	ON WHAT ACCOUNT.	Amount.
1897				
April..	8613	Henry W. Rothert, superintendent	Miscellaneous accounts...	24.88
	8614	P. H. Wind	Roofing.....	64.75
	8615	Henry W. Rothert, superintendent	Pay roll, teachers	871.88
	8616	Henry W. Rothert, superintendent	Pay roll, off'rs & employes	1,080.38
	8617	Henry W. Rothert, superintendent	Petty cash advanced	123.18
	8618	The Gillette Sign Works.....	Class tree sign	2.50
	8619	Crane-Churchill Co	Pipe and fitting	582.82
	8620	Crane-Churchill Co	Pipe and fittings	194.46
	8621	Crane-Churchill Co	Pipe and fittings	112.96
	8622	Crane-Churchill Co	Pipe and fittings.....	55.08
	8623	Crane-Churchill Co	Pipe and fittings	19.25
	8624	Henry W. Rothert, superintendent.	Pay roll, officers & employes	408.67
	8625	Henry W. Rothert, superintendent	Pay roll, teachers.....	790.71
	8626	O., M. & St. P. Railway Co.....	Freight	1.15
May...	8627	John Lewis Childs.....	Seeds.....	16.10
	8628	A. T. Flickinger	Discount on state warrant.	82.25
	8629	Omaha Paper Box Co.....	Office supplies.....	3.50
	8632	A. Wallenberg.....	Setting boilers, payment on contract....	250.00
	8633	A. Wallenberg.....	Setting boilers, payment on contract.....	250.00
June..	8635	A. T. Flickinger.....	Service as treasurer.....	100.00
	8636	Mrs. J. Kintz.....	Writing diplomas	6.50
	8637	J. W. Fauble	Masonry work.. ..	1.25
	8638	Henry W. Rothert, superintendent	Pay roll, part of officers and employes	253.44
	8639	Henry W. Rothert, superintendent.	Petty cash advanced	326.37
	8640	Henry W. Rothert, superintendent.	Miscellaneous accounts	27.97
	8641	O. & N.-W. Railway Co	Freight	4.54
	8642	Henry W. Rothert, superintendent	Pay roll, part of officers and employes	367.00
	8643	Henry W. Rothert, superintendent.	Pay roll, part of office's and employes	367.00
	8644	Henry W. Rothert, superintendent.	Pay roll, part of officers and employes	105.29
	8645	Henry W. Rothert, superintendent	Petty cash advanced.....	250.51

CURRENT FUND.

DATE.	DEBTOR.	AMOUNT.	DATE.	CREDITOR.	AMOUNT.
1895			1895		
July 1	To balance.....	\$ 115 58	July	By current bills.....	\$ 8,079 30
July 3	To state warrant.....	10,535.00	Aug	By current bills.....	1,284 80
July 31	To transfer, petty cash	733 23	Sept	By current bills.....	55.75
Aug. 13	To transfer, petty cash	1,000.00	Oct	By current bills.....	6,167.22
Oct. 19	To state warrant.....	10,175.00	Nov	By c'nt bills and wages	915.13
1896			Dec ...	By c'nt bills and wages	6,617.32
Jan. 21	To advanced to special funds.....	4 00	1896		
Feb. 6	To state warrant.....	3,535.00	Jan.....	By current bills.....	1,660.95
Feb. 6	To transfer, petty cash	1,000.00	Feb. .	By c'nt bills and wages	3,266 80
Mar. 13	To state warrant	4,003.00	March..	By c'nt bills and wages	7,161 47
Mar. 17	To state warrant.....	4,000.00	April...	By current bills.....	8,122.50
Mar. 17	To advanced to special fund.....	43.17	May	By current bills.....	396 60
April 30	To state warrant	10,675 00	June....	By current bills.....	588.08
June 30	To advanced to special fund.....	1.50	July....	By current bills.	6,619 09
July 8	To state warrant.....	10,675.00	Sept....	By c'nt bills and wages	1,403 07
July 16	To advanced to special fund.....	14.45	Oct. .	By current bills.....	50 36
Oct. 21	To state warrant.....	10,150.00	Nov	By current bills.....	1,846.80
1897			Dec	By current bills.	3,658 32
Jan. 23	To state warrant.....	10,500.00	1897		
Feb. 19	To transfer, petty cash	1,700.00	Jan.....	By current bills.....	2,994 15
April 30	To advanced to special fund	18 00	Feb.....	By c'nt bills and wages	12,520.09
April 30	To advanced to special fund	413.57	March..	By c'nt bills and wages	?
June 29	To transfer, petty cash	473 40	April...	By c'nt bills and wages	1,299 45
June 30	To transfer, petty cash	3,389 02	May	By current bills.....	82 25
			May	By current bills	766 18
			June....	By c'nt bills and wages	1,750 32
			June 30.	By balance.....	2,824.56
	Total.....	\$83,208 95		Total	\$83,208 95

ORDINARY FUND.

DATE.	DEBTOR.	AMOUNT	DATE	CREDITOR.	AMOUNT.
1895			1895		
July 1	To balance	\$ 12 00	July 6	By salaries and wages	\$ 1,460.00
July 3	To state warrant	5,250.00	July 12	By salaries and wages	1,334.43
Oct. 19	To state warrant	5,250.00	Aug. 12	By salaries and wages	1,016.65
1896			Sept. 7	By salaries and wages	1,101.13
Jan. 11	To state warrant	5,250.00	Oct. 11	By salaries and wages	3,189.50
April 17	To state warrant	5,250 00	Nov. 12		
July 8	To state warrant	5,250 00	1896	By salaries and wages	2,398 29
Oct. 21	To state warrant	5,250.00	Jan. 11	By salaries and wages	3,301.74
1897			Feb 12	By salaries and wages	1,948 26
Jan. 28	To state warrant	5,250.00	Ap'11 30	By salaries and wages	3,145.34
April 5			May 11	By salaries and wages	3,128 78
			June 4	By salaries and wages	3,141 33
			July 11	By salaries and wages	1,370.22
			Aug. 5	By salaries and wages	842.40
			Oct. 12	By salaries and wages	3,015.30
			Nov. 10	By salaries and wages	3,181.10
			Dec. 7	By salaries and wages	3,107.80
			1897		
			Jan. 5	By salaries and wages	3,105.73
			April 7	By salaries and wages	1,957.92
			Ap'11 22	By salaries and wages	254.08
			June 30	By balance	12.00
	Total	\$ 42,012.00		Total	\$ 42,012.00

APPROPRIATIONS OF THE TWENTY-THIRD GENERAL ASSEMBLY.

STRENGTHENING FRONT WALLS FUND.

DATE.	DEBTOR.	AMOUNT.	DATE.	CREDITOR	AMOUNT.
1895 July 1	To balance	\$ 243 85	1895 Aug. 12	By moneys expended as per vouchers on file.	101.28
			1897. June 30	By balance.....	76 97
	Total.....	\$ 243.85		Total.....	\$ 243 85

APPROPRIATIONS OF THE TWENTY-FOURTH GENERAL ASSEMBLY.

REPAIRS TO ELEVATOR FUND.

1895 July 1	To balance	\$ 296.27	1895-6-7	By moneys expended as per voucher on file	\$ 194.45
			1897 June 30	By balance.....	\$ 101 2
	Total.	\$ 296.27		Total.....	\$ 296.2

APPROPRIATIONS OF THE TWENTY-FIFTH GENERAL ASSEMBLY.

LIBRARY FUND.

1895 July 1 Oct. 19	To balance..... To state warrant.....	\$ 80.98 50.00	1895-6	By moneys expended as per vouchers on file.....	\$ 130.95
	Total.....	\$ 130.98		Total....	\$ 130 9

IRON SHUTTER AND DOOR FUND.

1895 July 1 Oct. 19	To balance..... To state warrant	\$ 375.00 125.00	1895-7	By moneys expended as per vouchers on file	\$ 83.00
			1897 June 30	By balance	417.02
	Total.....	\$ 500 00		Total.....	\$ 500 0

FIRE HOSE AND PIPE FUND.

1895 July 1 Oct. 19	To balance	\$ 85.73	1895	By moneys expended as per vouchers on file.....	\$ 135.73
	To state warrant.....	50.00			
	Total....	\$ 135 73		Total.....	\$ 135 0

COLD STORAGE FUND.

1895 Oct. 19	To state warrant.....	\$ 500.00	1895 July 1 1895-6	By balance.....	\$ 50.0
				By moneys expended as per vouchers on file.....	450.5
	Total...	\$ 500.00		Total.....	\$ 500.00

REPAIR FUND.

1895 Oct. 19	To state warrant.....	\$ 500.00	1895 July 1	By balance.....	\$ 500.00
	Total.....	\$ 500 00		Total..	\$ 500.00

ELECTRIC LIGHT FUND.

1895 Oct. 19	To state warrant.....	\$ 250.00	1895 July 1	By balance	\$ 250.00
	Total.....	\$ 250 00		Total.....	\$ 250.00

BED ROOM FURNITURE AND BEDDING FUND.

1895 Oct. 19	To state warrant.....	\$ 125.00	1895 July 1	By balance	\$ 125.00
	Total.....	\$ 125 00		Total..	\$ 125.00

COOKING SCHOOL AND GYMNASIUM FUND.

1895 July 1	To balance	\$ 276.75	1895 Oct. 21	By moneys expended as per vouchers on file.....	\$ 1,526.75
Oct. 19	To state warrant.....	1,250.00		Total..	\$ 1,526.75
	Total.....	\$ 1,526 75			

BAKERY AND BAKE OVEN FUND.

1895 Oct. 19	To state warrant	\$ 500.00	1895 July 1	By balance	\$ 500.00
	Total..	\$ 500 00		Total.....	\$ 500.00

NEW ROOF ON SCHOOLHOUSE FUND.

1895 July 1	To balance	\$ 184.20	1895 Nov. 14	By balance unex- pended moneys re- turned to state treasurer.	\$ 309.20
Oct. 19	To state warrant.....	125 00		Total	\$ 309.20
	Total..	\$ 309 20			

PIPE AND BOILER COVERING FUND.

1895 Oct. 19	To state warrant	\$ 50.00	1895 July 1	By balance.....	\$ 50.00
	Total..	\$ 50.00		Total.....	\$ 50.00

APPROPRIATIONS OF THE TWENTY-SIXTH GENERAL ASSEMBLY.

LIBRARY FUND.

1897 April 22	To state warrant	\$ 200.00	1896-7	By moneys expended as per vouchers on file.....	\$ 42.10
	Total.....	\$ 200.00	1897. June 30.	By balance	157.90
				Total	\$ 200.00

STRENGTHENING WEST OR BOYS' WING FUND.

1897 April 22	To state warrant.....	\$ 1,500 00	1896-7	By moneys expended as per vouchers on file.....	\$ 1,500.00
	Total.....	\$ 1,500.00		Total..	\$ 1,500.00

RESERVOIR, CISTERN AND PUMP FUND.

1897 April 22	To state warrant	\$ 2,000.00	1896-7	By moneys expended as per vouchers on file.....	\$ 1,272.22
			1897. June 30.	By balance	627.78
	Total.....	\$ 2,000.00		Total.....	\$ 2,000.00

REPAIR TO CHILDREN'S DINING ROOM FUND.

1897 April 22	To state warrant	\$ 200.00	1896-7	By moneys expended as per vouchers on file.....	\$ 200.00
	Total..	\$ 200.00		Total.....	\$ 200.00

REPAIR FUND.

1897 April 22	To state warrant	\$ 2,000.00	1896-7	By moneys expended as per vouchers on file.....	\$ 2,000.00
	Total..	\$ 2,000.00		Total..	\$ 2,000.00

SIDEWALK AND GROUNDS FUND.

1897 April 22	To state warrant	\$ 500.00	1896-7	By moneys expended as per vouchers on file....	\$ 500.00
	Total.....	\$ 500.00		Total..	\$ 500.00

FURNITURE IN SCHOOL AND STUDY ROOM FUND.

1897 April 22	To state warrant	\$ 200.00	1896-7	By moneys expended as per vouchers on file..	\$ 200.00
	Total.....	\$ 200.00		Total..	\$ 200.00

ICE HOUSE FUND.

1897 April 22	To state warrant	\$ 500.00	1897 June 30.	By balance	\$ 500.00
	Total.....	\$ 500.00		Total..	\$ 500.00

BOILER AND ENGINE HOUSE AND ADDITIONAL BOILER FUND.

1897 April 22	To state warrant. ...	\$ 10,000.00	1896-7	By moneys expended as per vouchers on file..	\$ 9,562.07
			1897 June 30	By balance	437.93
	Total.....	\$ 10,000.00		Total.....	\$ 10,000.00

PROVIDENTIAL FUND.

1897 April 22	To state warrant....	\$ 379.03	1896	By moneys expended as per vouchers on file.....	\$ 379.03
	Total.....	\$ 379.03		Total	\$ 379.03

BALANCES.

1897			1897		
June 30	Current fund...	\$ 2,324.56	June 30	By balance.....	\$ 4,633.95
June 30	Ordinary fund	12 00			
June 30	Strengthening front walls fund	76 97			
June 30	Repair to elevator fund	101 82			
June 30	Iron shutter and door fund	417.00			
June 30	Library fund....	157.90			
June 30	Reservoir, cistern and pump fund.	626.77			
June 30	Ice house fund....	500.00			
June 30	Boiler, engine house, and additional building fund.....	416.93			
	Total.....	\$ 4,633.95		Total.....	\$ 4,633.95

BALANCE SHEET.

State of Iowa in account with A. T. Flickinger, Treasurer.

DATE.	DEBTOR.	AMOUNT.	DATE.	CREDITOR.	AMOUNT.
1895 July 1	To balance.....	\$ 195.95	1897 May 8	By warrants paid to date as per detailed statement.....	\$ 139,405.58
	To moneys received to date as per detailed statement.....	142,234.98	May 8	By F.O.Gleason, treas.	3,025.35
	Total.....	\$142,430.93		Total.....	\$ 142,430.93

A T. FLICKINGER,
Treasurer.

BALANCE SHEET.

State of Iowa in account with F. O. Gleason, Treasurer.

DATE.	DEBTOR.	AMOUNT.	DATE.	CREDITOR.	AMOUNT.
1897 May 8	To amount received from A. T. Flickinger, treasurer	\$ 3,025.35	1897 June 30	By warrants paid to date as per detailed statement..	\$ 2,253.82
June 30	To transfer petty cash	473 40	June 30	By balance	4,633.65
June 30	To transfer petty cash	3,389 02			
	Total..	\$ 6,887 77		Total..	\$ 6,887.77

F. O. GLEASON,
Treasurer.

APPLICATION.

IOWA SCHOOL FOR THE DEAF, COUNCIL BLUFFS.

Free to all the deaf children of school age in the state. The state furnishes, without charge, boarding, lodging, washing and tuition. Parents pay only for transportation to and from the school, and clothing.

- 1. Full name of applicant
- 2. The day, month and year of birth
- 3. Where was he born?
- 4. The cause of deafness; if not born deaf, when and how he became deaf
- 5. Is the deafness total or partial? If the latter, state the degree of hearing?
- 6. Have any attempts been made to remove the deafness, and if so, with what success?
- 7. Has he had any acute disease or received any bodily injury?
- 8. Is he laboring under any bodily infirmity, defective vision, eruption, malformation, swelling, rupture, etc.?
- 9. Is he bright and active, or dull?
- 10. Has he ever used liquors or tobacco?
- 11. Has he ever had small-pox, scarlet fever, spinal fever, measles, whooping cough, mumps, or been vaccinated?
- 12. Are there any cases of deafness in the family, among relatives or ancestors?
- 13. Has he shown any taste for any particular trade or business, or been accustomed to regular employment?
- 14. Have any attempts been made to impart instruction?
- 15. Is there any ability to articulate or read on the lips?
- 16. Were the parents related before marriage? If so, how?
- 17. The full names of parents
- 18. The occupation of the father
- 19. The postoffice address of the parents, town and county
- 20. Name, age and address of any other deaf child in your neighborhood

RULES ORDERED BY THE BOARD OF TRUSTEES.

GOVERNING OFFICERS, RESIDENT TEACHERS AND EMPLOYES.

RULE I.

The hospitalities of the institution can be extended only through the superintendent, and no courtesies as to meals or rooms can be offered by anyone without first receiving that officer's consent; this to apply to relatives, friends, parents and patrons.

RULE II.

A record shall be kept of all visitors, and when meals or rooms are furnished, the same shall be reported to the board by the superintendent.

RULE III.

The conveyances and horses belonging to the state are not to be used for private purposes or the accommodation of anyone, save in the discretion of the superintendent, it being distinctly understood that no rights can be claimed appertaining thereto except for the purpose of attending church. In no case shall the superintendent permit the service of teams for social or personal purposes if at such time the needs of the institution or the benefit to the children demand their use.

RULE IV.

All private rooms in the main building shall be subject to inspection for sanitary purposes by the superintendent at such times as may be deemed proper by him, and not less than once a month.

RULE V.

Meals shall be served promptly at the time stated in time tables, and no one shall have the right to claim service at any or later time, except in case of sickness.

RULE VI.

Pupils are not servants, and where the service of any pupil, when not at school, for any regular work or assistance to officers, teachers or employes is wanted, request must first be made at the office, permission obtained and compensation agreed upon. Incidental service of scholars not included in above.

RULE VII.

All lights in private rooms shall be extinguished at 10 P. M. Whenever this rule is not complied with, unless suspended in individual cases by the superintendent, for good cause, the expense thereby incurred shall be deducted at each monthly payment.

RULE VIII.

Whereas it is expected that each officer, teacher, and employe will contribute his or her share in securing proper economy in light, heat, and water supply, a strict attention to the rules governing the same will be enforced. When rooms are not used, the lights, either electric or gas, must be extinguished, the radiators must be closed, and at all times a proper attention to closing of doors and windows by everyone exacted. All will be held accountable for a useless waste of water.

RULE IX.

All breakages and damages to furniture, apparatus, or buildings, whether made by children or adults, shall be immediately thereafter reported at the office, and whenever it shall be clearly shown that same has occurred through carelessness or negligence, the cost of repairing same shall be charged to the party guilty thereof.

RULE X.

The time of officers and employes belongs to the state for such hours as may be designated by the superintendent or agreed upon when entering service, and any absence from duty on account of personal business shall not be permitted unless by consent of superintendent, and then only for an urgent and important cause.

RULE XI.

The superintendent shall have the right to appoint or discharge. In all cases where an officer or employe desires to sever his or her official connection with the institution, he or she shall give notice thereof to the superintendent fifteen days prior thereto.

RULE XII.

The clock in the superintendent's office shall be standard time, and all clocks and watches must be governed thereby.

A proper recognition of and a willing compliance with above rules will insure a satisfactory and contented relationship with and among all parties concerned.

GOVERNING PUPILS.

1. The pupils must be respectful and obedient at all times.
2. They must be cleanly in their person and neat in their dress.
3. They must behave in an orderly manner at all times and in all places.
4. They must not indulge in rough playing, scuffling, or running in the halls or rooms of the buildings.
5. They must not deface the buildings, damage the furniture, books, or other property of the institution, nor make unnecessary work by throwing things of any kind on the floor or about the buildings or grounds.
6. They must practically observe the regular order of the day.
7. They must not leave the grounds without permission of the superintendent.
8. Pupils living in the city are permitted to go home on Saturdays after bathing hour and must return before 2 o'clock P. M. on Sundays, unless especially ordered otherwise by the superintendent.
9. They must not use tobacco nor spirits of any kind.

10. They must be diligent in their studies, neither wasteful of their time nor careless of their opportunities.

11. They must not absent themselves from school at any time without being previously excused by the superintendent or principal, and in case of being excused by the superintendent, the superintendent shall so report to the principal.

12. They must not enter or loiter in the schoolhouse at any time out of school hours, unless detailed for work or expressly permitted.

13. All loitering, standing or talking in the halls on the way to or from school, or at recess, is prohibited.

14. They must enter in and retire from the dining room in an orderly manner and observe proper decorum while at their meals.

15. They will not be permitted in main building, dining room or kitchen during school hours, including recess, unless by the order of the principal or teacher.

16. They will not be permitted to be in the main hallway, nor occupy the front steps or veranda. Under no circumstances will they be allowed to use the center stairs to and from the third floor. Exceptions to this rule can only be made by the superintendent. The above does not prevent any pupil from coming to see the matron or superintendent, on business, at any time.

17. The industrial departments are not work shops, but schools, and all pupils attending same are governed, as far as applicable, by the same rules as govern pupils during school hours.

18. Boys are not permitted on girls' playground except going to or coming from industrial school buildings or barns.

19. They must give notice and strict obedience to all rules and regulations that may from time to time be issued by the superintendent.

GOVERNING TEACHERS.

1. Teachers, except those on duty, shall be in their respective school-rooms to receive pupils at the beginning of each session at five minutes prior to 8 A. M. and 1 P. M.

2. At the beginning of each school period all absent pupils must be noted, and, unless positively known by the teacher to be ill or excused, such absence shall immediately be reported to the principal, with cause, and by him to the superintendent.

3. The teacher shall keep a record of attendance of his respective classes in a register furnished for that purpose.

4. All books and supplies for the use of pupils shall be drawn by the teacher of the class for which they are intended. No books nor supplies will be issued directly to pupils.

5. Teachers may dismiss or excuse pupils from school on account of illness or other sufficient cause, but such dismissal or excuse shall immediately be reported to the principal by such teachers, and the principal shall report same to the superintendent or nurse.

6. Corporal punishment is prohibited.

7. Serious misbehavior on the part of pupils must be reported immediately to the principal for his action thereon.

8. Teachers necessarily absent from school should notify the principal thereof as far in advance as practicable, and all absence of teachers shall be reported by the principal to the board.

9. The whole duty of teachers is not fulfilled by a routine imparting of instruction; they must, by example and personal influence, do all that within them lies to promote the physical, mental, and moral improvement of all pupils with whom they are brought in contact, and this in and out of school.

10. Teachers will assume duty in rotation, according to seniority of service.

11. The teachers on duty will preserve order in the chapel, and see that pupils proceed to and leave their respective schoolrooms in a prompt and orderly manner, and will have charge of children at recess. The male teacher on duty will act as principal in the absence of the principal.

12. It shall be the duty of teachers to give vigilant attention to the ventilation and temperature of the schoolrooms, and to make themselves familiar with the means by which their respective rooms may be properly ventilated. A regular system of ventilation shall be practiced at all times by which the air in all their schoolrooms shall be effectually changed at recess, and at such other times as may be necessary to prevent the breathing of impure air.

13. They shall at all times give their support to the officers of the institution by inculcating in the minds of their respective classes proper principles of good order and obedience; and they shall never intimate to them matters to the discredit of any officer in the institution.

14. Teachers shall not be allowed to employ their time outside of school hours in any manner which will interfere with their efficiency or usefulness as teachers in the institution.

15. Attendance upon teachers' meetings will not be made obligatory, but attendance will naturally indicate interest in their work; non-attendance, lack of interest.

16. Teachers shall have charge of such classes as may be assigned them by the principal. They shall be subject to his direction, and shall co-operate with him, not only during school hours, but before and after.

HENRY W. ROTHERT,
Superintendent.

Twenty-third Biennial Report

OF THE

COLLEGE FOR THE BLIND

LOCATED AT

Vinton, Benton County,

TO THE

GOVERNOR OF THE STATE OF IOWA.

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.

TRUSTEES.

W. M. SAWYER, <i>President</i>	Earlville
R. A. SCHROEDER, <i>Treasurer</i>	Sabula
JACOB SPRINGER	Blairstown
LEOP LEVY	Waverly
JAMES COONEY	Arlington
S. W. FERRIS	Bristow

OFFICERS OF THE COLLEGE.

PRINCIPAL:
THOMAS F. McCUNE, A. M.

SECRETARY:
JAMES A. BROWN.

PHYSICIAN:
DR. C. C. GRIFFIN,

ENGINEER:
HENRY VERHAREN.

ASSISTANT STEWARD:
JAMES SAWYER.

LITERARY DEPARTMENT.

THOMAS F. McCUNE, A. M., *Principal*.....First Teacher
MISS MARY E. WOOD, *Assistant Principal*.....Second Teacher
G. W. TANNEHILL, A. M., *Professor of Mathematics*.....Third Teacher
MISS LORANA MATTICE, *Fifth and Sixth Grades*.....Fourth Teacher
MISS FINETTE FERRIS, *Third and Fourth Grades*.. . . .Fifth Teacher
MISS IDA DONALD, *First and Second Grades*.....Sixth Teacher
MISS DORA DONALD, *Teacher of Linnie Haguewood*.....Seventh Teacher

MUSICAL DEPARTMENT.

MISS ELLA M. PHILLIPS.....Piano and Harmony
MISS JENNIE H. EVANS.....Piano and Harmony
GEORGE MOODY.....Vocal
J. M. MILLER.....Small Instruments

INDUSTRIAL DEPARTMENT.

MISS LORANA MATTICE.....Fancy Work
MISS EMMA CARLSON.....Sewing
W. G. ACHUFF.....General Work

TUNING DEPARTMENT.

B. F. PARKER.....Teacher

HOUSEHOLD DEPARTMENT.

MISS ALICE YATES.....Housekeeper
MISS MARY E. LOY.....Girls' Matron A
MISS MAE TRAINOR.....Girls' Matron B
MISS ELIZABETH EASTMAN.....Boys' Matron A
MISS MARY LINDEMUTH.....Boys' Matron B

Trustees' Report.

To the Honorable Governor and the General Assembly of the State of Iowa:

Your trustees of the College for the Blind, at Vinton, submit the following as their report for the biennial period ending June 30, 1897:

The period covered by our report has been a highly prosperous one for the college.

The appropriation made by the Twenty-sixth General Assembly of \$5,000 for a brick laundry building, has been nearly expended, and we say that the state of Iowa has full value for the money expended, and that the new laundry at Vinton will be one of the model laundries of the state. An examination of our building will corroborate our statement.

We must again refer to the necessity of having facilities for the exercise of physical culture for the blind children. Physical exercise is a necessity to good health and of vastly more importance to blind children than to seeing ones. While most all state institutions have special gymnasiums, your College for the Blind has no facilities whatever for this work save the chapel, and we again ask for an appropriation of \$10,000 for a gymnasium.

The general health and comfort of all the pupils would be greatly promoted by a system of water closets and sewerage. Nearly all other state institutions are provided with these conveniences, while this college is compelled to be satisfied with the old style outhouses, necessarily located at quite a distance from the college buildings. There the little blind boys and girls have to go in the cold of winter, thus being necessarily dangerously exposed. To properly construct these toilet rooms with the necessary system of sewerage required, one and a half

miles to a point below the city of Vinton, we ask for an appropriation of \$10,000.

The Twenty-sixth General Assembly made an appropriation of \$500 for a special teacher for Linnie Haguewood, the deaf and dumb blind girl at our college. Linnie has made such wonderful progress that we hope the Twenty-seventh General Assembly will make a further appropriation for her education.

It will be absolutely necessary to relay a large part of the flooring in the main building during the next two years, and we respectfully ask for a special appropriation of \$1,000 for this purpose.

We will have to ask further for—

For the contingent and repair fund.....	\$3,000
For inside and outside painting.....	1,000
For library and school apparatus	1,000
For furniture and bedding.....	1,000

For a more detailed report of the condition and expenditures of the college, your attention is called to the reports of our principal, secretary and treasurer, which are submitted herewith and made a part of this report.

Respectfully submitted,

W. M. SAWYER.
R. A. SCHROEDER.
JACOB SPRINGER.
LEOP LEVY.
JAMES COONEY.
S. W. FERRIS.

PRINCIPAL'S REPORT.

Report of the Principal.

To the Hon. F. M. Drake, Governor of Iowa:

SIR—I herein submit a report of this institution for the biennial period commencing July 1, 1895, and closing June 30, 1897.

The report of the commissioner of education, for the years 1893-4, gives the following statistics: Number of institutions for the blind in the United States, 37; literary instructors, 389; instructors in music, 152; instructors of trades, 119; pupils, 3,775; graduates in 1894, 123; volumes in libraries, 67,232; value of scientific apparatus, \$20,056; value of grounds and buildings, \$5,909,741; receipts, \$1,078,962; expenditures, \$999,370.

The institutions of Massachusetts, New York City, Pennsylvania, Ohio, and Illinois had each at that time (1894) more than 200 students. The institutions of Iowa, Arkansas, Texas and Indiana had each a number between 150 and 200. All the others reported less than 150. The average number of students attending each institution for the blind in the United States was 102.

All the above are state institutions, or corporations receiving state aid. The average annual expense per capita of educating the blind of the United States in the year 1893-1894, was \$264.

These 37 institutions are educational in character. They aim to give their students a good primary, grammar and high school course. In addition to this, the larger schools give professional instruction in music and piano tuning to those capable of receiving it. Minor trades, as sewing, fancy work, carpet weaving, cane seating, net and hammock work, and broom making, are taught in nearly all the schools.

Several years ago congress appropriated \$250,000 as a permanent fund, the interest of which, \$10,000, was to be paid

semi-annually to the trustees of the American Printing House for the Blind, a corporate body, in Louisville, Ky., to be expended in publishing embossed books and manufacturing tangible apparatus for the blind. The books and apparatus are supplied to the various institutions in proportion to pupilage. Aside from this noble provision, there is really no instrumentality of a public nature for the liberal cultivation of blind people. A philanthropic organization, "The Society for Providing Evangelical Religious Literature for the Blind," Philadelphia, Penn., is doing an excellent work. Several periodicals devoted to the interests of the blind have been started within the last ten years, but all have failed through lack of support. The blind would cheerfully encourage an ink print magazine or paper, if they themselves could read it, but they must rely for such offices on sighted friends, who generally prefer to make their own selection of reading matter. A good literary embossed monthly, Kneass's Magazine, Philadelphia, Penn., has been in successful existence for many years.

No work presents more complex problems than that of educating the blind. A large proportion of the students in any state school are afflicted with ill health, or at least with bodily infirmities that interfere with study and classification. Perhaps an equal number have mental defects varying between eccentricity and imbecility. Still another class will be morally defective. Hence a school for the blind is a heterogeneous body of the bright and the dull, of the refined and the coarse. When it is understood that such an institution aims to correlate under one roof a kindergarten, primary, secondary and high school, a conservatory of music, a tuning factory, and one or two mechanical industries, and all with a beneficent family and home life, it may be readily believed that a school for the blind must meet not only some of the difficulties of any school, but all the difficulties of all the schools.

Yet no work has made greater progress during the last quarter of a century than this. Thirty years ago education in schools for the blind was largely manual, not in the educational sense, but in the commercial sense. The students were taught trades by which it was hoped they might earn their living. At the present time mental, moral and physical growth occupy the attention first. It is only in the application of educational principles that a school for the blind differs from any other. Experience has proven that the educated blind person is far

more able to take care of himself than the uneducated craftsman.

WORK DONE BY THE COLLEGE FOR THE BLIND.

This institution came into existence forty-five years ago (1852). During this time, and at the close of the present period, 1,007 students have been enrolled. At the lowest approximation, 5 per cent of this number might be said to be doing exceedingly well; 15 per cent make their own living. The number gaining no profit pecuniarily out of their trades, but who are educated and respectable members of society, will equal 40 per cent. The remaining 40 per cent are failures.

Of the whole enrollment, 10 per cent have completed the literary course and received their diplomas. The friends of the college may view with pride the lives of these persons. Four have become successful ministers of the gospel. One is an evangelist of more than ordinary power. One is rapidly rising into prominence as a writer of stories for children. Another, as author and lawyer, has attained a marked standing in one of the largest cities of the land. Several are receiving good salaries as teachers. Quite a number have accumulated property through farming, agencies, lecturing or general business. The alumni of the college may now justly be regarded as a power in the state. It was through their efforts that the Industrial Home for Adult Blind was established at Knoxville, Iowa.

POPULATION.

The officers of the college (all persons elected by the trustees), consist of a principal, secretary, physician, engineer, assistant steward, housekeeper, six literary teachers, four music teachers, one tuner, two industrial teachers, and four matrons. The total amount per annum, paid for officers' salaries is \$11,545. The average annual salary for each officer is \$502.

The employes of the college consist of five laundry girls, four girls in kitchen, five in dining room, six girls for chamber work, one visitors' attendant, one general help, one fireman, one porter, one carpenter, and one night watchman. The total amount per annum paid out in wages was \$4,480.77. The average annual wages of each employe was \$136.

Students have been admitted on the statements of physicians that the applicants were not able to acquire an education in the common school. During this biennial period 246 students were

enrolled. Of these seventy-four were admitted for the first time. The remainder had been admitted, that is, had received the legal right to attend, during some preceding period. Six students were graduated in 1896; five were graduated in 1897.

Average daily attendance in 1895: July, none; August, none; September, 141; October, 171; November, 189; December, 185.

Average daily attendance in 1896: January, 182; February, 178; March, 172; April, 166; May, 160; June, 57; July, 2; August, 2; September, 145; October, 166; November, 170; December, 173.

Average daily attendance in 1897: January, 170; February, 170; March, 169; April, 163; June, 46.

The college, as its name indicates, is a school, not a home. Each biennial period is divided into two school sessions and two vacations. Each school session begins on the first Wednesday of September, and ends on the second Wednesday of June following. Each vacation begins on the second Wednesday of June, and ends on the first Wednesday of September following. In vacations the students are required to return to their homes. All officers and employes are then discharged except those necessary for the care, cleaning, and repair of the buildings.

During the session 1895-1896, 208 pupils were in attendance, and 186 were in attendance during the session 1896-1897.

Of the biennial enrollment, 246, 38 per cent were entirely blind; 32 per cent were purblind (those persons born with some degree of sight but with imperfect eyes); 20 per cent from disease or accident could not use their eyes to any advantage, although they possessed fair sight. The remaining 10 per cent possessed both sight and strength to use it to some extent in school work.

Occasionally a blind person of strong character and exceptional abilities will complete with honor the course of study in some school for sighted students. Whenever possible this is the best plan to pursue. However, the co-education of the blind and sighted, in schools for the latter, has never been made generally practical. To the ordinary mind the difficulties are almost insurmountable. Under methods adapted to the needs of blind students, sighted pupils, although working under great disadvantages, may succeed fairly well. Still, I would not advise parents to send their slightly defective sighted children to a school for the blind, until all other means of education have been tried.

Only three colored pupils were in attendance.

Of the biennial enrollment, 246, 7 per cent were under 10 years of age; 37 per cent were under 15 years and over 10; 38 per cent were under 20 years and over 15; 18 per cent were over 20 years of age.

Of the enrollment, 58 per cent were well formed, healthy, and robust. The remaining 42 were narrow chested, or frail in structure, and lacking in vitality.

We have had no death. There has been but one case of serious sickness.

With the ordinary seeing boy or girl as a standard, perhaps 10 per cent of the enrollment possessed more than common ability, 50 per cent possessed ordinary ability, 40 per cent below ordinary.

About 50 per cent of the students had received careful home training.

Blind children, as other children, are creatures of training. We find in this school, where the blind and the sighted are gathered together from similar social environments, where they are subject to and trained under the same educational conditions, that in a moral sense the two classes average equally well.

Six per cent were Roman Catholics, 94 per cent were Protestants. In fair weather each student was required to attend his own church once every Sunday. Chapel exercises were held each morning. Teachers of the six lower grades gave religious instruction to their classes on Sunday afternoons. The older students conducted a prayer meeting on Sunday evenings. Catholic students were always excused from the religious exercises of the school.

Twenty-five per cent of the enrollment came from prosperous homes; 50 per cent were of poor but independent parents; 25 per cent were from families receiving county aid.

Of the fathers of the students, 67 per cent were born in the United States; 7 per cent were born in Germany; 6 per cent in Ireland; 3 per cent in Scotland; 3 per cent in Norway; 2 per cent in Sweden; 2 per cent in Canada; the remaining 10 per cent in Holland, Switzerland and other European countries.

Of the mothers of the students, 75 per cent were born in the United States; 8 per cent in Germany; 4 per cent in Ireland; 4 per cent in Scotland; 2 per cent in Canada; 2 per cent in Sweden; the remaining 5 per cent in Switzerland and other European countries.

Of the students, 80 per cent had each both father and mother of one nationality.

Parents of 5 per cent of the students were related by blood; 15 per cent had blind or defective sighted brothers and sisters; 10 per cent had other blood relatives afflicted in various ways, as with lameness, deafness, etc.

The government of the students has been mild and reasonable. No serious difficulties have arisen during the period.

The primary object of discipline is "good conduct." Good conduct includes promptness, attention, application, politeness, obedience. These qualities are all latent in the spiritual nature of the child and, by cultivation, must be brought out separately and collectively, just as the different muscles of the body are trained in normal development.

Two well defined stages of discipline are universally recognized. The first should be acquired at home; the second is best attained in the schools. The first has reference to those habits which become by repetition a part of the individual, or which serve, in the language of Doctor Harris, as a kind of spiritual investiture of the child. The majority of our children come to us with little of this. We must take up the work which the home should have done. Hence we require from the first absolute obedience. There must be from the beginning to the end absolute promptness to meals, to recitations, to bed, absolute silence throughout the house after retiring bell, unquestioning submission to teachers and all the requirements of the school.

Such training is arbitrary, but it is unavoidable. No school could live without it. If carried far alone, however, it is productive of great harm. The second stage should be entered as soon as possible. By this I mean that all proper motives to human action should be laid before the children and that they be allowed to choose therefrom. They will soon learn that there is a reason behind every regulation; that a school is a community of rights; that to exercise one's own right is universally approved; that to infringe upon the right of another is universally condemned. From observation of right he may ascend to conception of right.

In institution life there is a constant temptation to undue extension of arbitrary rule. It is easy to make ironclad regulations and to enforce them. When there is no thought but of obedience, a school may be a model in all externals, and a pleasant thing to see, but powerless to produce any real character growth.

It has been the aim of the institution to maintain these two stages in logical relation. During the last school session, September 2, 1896, to June 9, 1897, with an attendance of 186 students, 70 per cent were excellent in deportment. The conduct of 12 per cent was satisfactory, but not entitled to praise; 9 per cent were under discipline frequently for trivial offenses; 9 per cent were habitual and serious disturbers of the college peace.

HOUSEHOLD DEPARTMENT.

The affairs of this institution are administered in two grand divisions: first, educational; second, business; each one independent of the other, and each one responsible to the board of trustees alone. The educational division is in charge of a principal, while the business division is controlled by the secretary of the board.

As the principal controls all the students, as well as all officers, teachers, and employes brought in contact with the students, while the secretary controls the funds; and as each man, barring the board, is absolute in his own division, one of three things may be expected: either the two will combine for rascally purposes, or the weaker man will become absorbed in the other, or what is more probable, each man will attend to his own business, a check on the other, and will live in a state of healthy sensitiveness as to his own rights. A careful study of this system, which is not dual in the ordinary sense, will reveal many strong points in its favor.

The educational division is administered in five departments: First, household; second, literary; third, music; fourth, industrial; fifth, tuning.

The household department is administered in eight sections: First, laundry; second, housekeepers' section; third, girls' section A; fourth, girls' section B; fifth, girls' section C; sixth, boys' section A; seventh, boys' section B; eighth, boys' section C.

Girls' matron A has charge of seventeen of the youngest girls in the college. Girls' matron B has charge of sixteen next older. The assistant principal controls all girls in section C.

Sections A and B are homes. The matrons in charge are not nursery governesses, but take the mother's place. They are expected to have the care of every detail in the lives of the students entrusted to them. Here is to be found the home life

of the institution. When the girls pass into section C they are no longer under the motherly supervision which they have been accustomed to receive from the matrons. They become responsible factors in the school life. Their relationship to the assistant principal is that of student and preceptress.

Substantially the same plan is adopted for the boys. The idea which I wish to emphasize is that in sections A and B, for both sexes, the home life is as complete as it can well be made in a public institution under one roof; but that in section C, for both sexes, the life is that of a seeing student in a boarding school.

It will be seen that the utmost care should be exercised in selecting a matron. She should be a woman who loves children. No other should be considered for an instant. She should know how to patch, darn, and sew, and to like that kind of work, for she will have plenty of it to do. She should enjoy gathering the girls about her in their spare moments to teach them this kind of work, and the countless other things best learned in the home. The influence of the right woman in such a position cannot be over-estimated.

All students are required to make their own beds. The girls are required to take full care of their own rooms. The girls are also assigned periods in which they are expected to mend their clothes, provided they have the necessary ability for such duties. Girls in the graduating class receive from the house-keeper, during their last term, lessons in the science and practice of cooking.

LITERARY DEPARTMENT.

This department is divided into seven sections, each one in charge of a teacher. Section one, or scientific; section two, history and literature; section three, mathematics; section four, beginning of departmental study; section five, third and fourth grades; section six, first and second grades; section seven, Linnie Haguewood.

Whatever is said of the last term of this biennial period may be said substantially of the first term. During the last term the enrollment was 186, classified as follows:

First grade	13
Second grade	18
Third grade	15
Fourth grade	20
Fifth grade	17

Sixth grade.....	21
Seventh grade	14
Eighth grade	11
Ninth grade	10
Tenth grade	5
Eleventh grade	9
Twelfth grade	4
Irregular	29
<hr/>	
Total	186

The methods employed are those to be found generally in schools for seeing pupils.

Linnie Haguewood is advancing rapidly in all her studies. She is certainly a remarkable girl intellectually. She appears happy, attached to her teacher, and eager to learn. I believe that her training is in very capable hands.

The course of study, as indicated below, will show, without further remark, the influence which this department is expected to exert in the school.

COURSE OF STUDY IN THE LITERARY DEPARTMENT.

FIRST GRADE.

FIRST SEMESTER.

Kindergarten.....	9 periods a week
Language	2 periods a week
Number work	2 periods a week
Observation work (first step in geography).....	2 periods a week
Wait's Point.....	5 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Kindergarten	9 periods a week
Language	2 periods a week
Number work	2 periods a week
Observation work (first step in geography).....	2 periods a week
Wait's Point	5 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND GRADE.

FIRST SEMESTER.

Kindergarten	9 periods a week
Language	2 periods a week
Number work	2 periods a week
Geography of Iowa	2 periods a week
Wait's Point	5 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Kindergarten	9 periods a week
Language	2 periods a week
Number work	2 periods a week
Geography of Iowa	2 periods a week
Wait's Point	5 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

THIRD GRADE.

FIRST SEMESTER.

Language and spelling	4 periods a week
Wait's Point	10 periods a week
Arithmetic—add, subtract, multiply, divide	3 periods a week
Geography—Western Hemisphere.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Language and spelling.....	4 periods a week
Wait's Point.....	10 periods a week
Arithmetic—add, subtract, multiply, divide.....	3 periods a week
Geography—Western Hemisphere.....	3 periods a week
Gymnastics.....	5 periods a week
General literature	5 periods a week

FOURTH GRADE.

FIRST SEMESTER.

Language and spelling.....	4 periods a week
Wait's Point.....	10 periods a week
Arithmetic—addition, subtraction, multiplication, division, fractions, compound numbers.....	3 periods a week
Geography—Eastern Hemisphere.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Language and spelling.....	4 periods a week
Wait's Point.....	10 periods a week
Arithmetic—addition, subtraction, multiplication, division, fractions, compound numbers.....	3 periods a week
Geography—Eastern Hemisphere.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

FIFTH GRADE.

FIRST SEMESTER.

Language and spelling.....	2 periods a week
Raised print and point.....	5 periods a week
Arithmetic.	5 periods a week
Geography, beginning the study of some text-book.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Language and spelling.....	2 periods a week
Raised print and point.....	5 periods a week
Arithmetic.....	5 periods a week
Geography, completing the study of text-book.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SIXTH GRADE.

FIRST SEMESTER.

Language and spelling.....	2 periods a week
Raised print and point.....	5 periods a week
Arithmetic.....	5 periods a week
Geography, the United States.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Language and spelling.....	2 periods a week
Raised print and point.....	5 periods a week
Arithmetic.....	5 periods a week
Geography, the United States.....	3 periods a week
Gymnastics.....	5 periods a week
General literature.....	5 periods a week

SEVENTH GRADE.

FIRST SEMESTER.

Arithmetic.....	5 periods a week
Grammar and spelling.....	5 periods a week
United States history.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER,

Arithmetic.....	5 periods a week
Grammar and spelling.....	5 periods a week
United States history.....	5 periods a week
General literature.....	5 periods a week

EIGHTH GRADE.

FIRST SEMESTER.

Arithmetic.....	5 periods a week
Grammar and spelling.....	5 periods a week
General history.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Arithmetic.....	5 periods a week
Grammar and spelling.....	5 periods a week
General history.....	5 periods a week
General literature.....	5 periods a week

NINTH GRADE.

FIRST SEMESTER.

Algebra	5 periods a week
General history.....	5 periods a week
Physiology	5 periods a week
Typewriter and spelling.....	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Algebra	5 periods a week
General history.....	5 periods a week
Physiology	5 periods a week
Typewriter and spelling.....	5 periods a week
General literature.....	5 periods a week

TENTH GRADE.

FIRST SEMESTER.

Algebra	5 periods a week
Civil government.....	5 periods a week
Natural philosophy.....	5 periods a week
Rhetoric and spelling	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Algebra	5 periods a week
Civil government.....	5 periods a week
Natural philosophy.....	5 periods a week
Rhetoric and spelling	5 periods a week
General literature.....	5 periods a week

ELEVENTH GRADE.

FIRST SEMESTER.

Geometry	5 periods a week
Government of Iowa.....	5 periods a week
English and American literature	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Geometry	5 periods a week
Physical geography	5 periods a week
English and American literature	5 periods a week
General literature.....	5 periods a week

TWELFTH GRADE.

FIRST SEMESTER.

Latin.....	5 periods a week
Political economy	5 periods a week
General literature.....	5 periods a week

SECOND SEMESTER.

Latin.....	5 periods a week
Political economy	5 periods a week
General literature.....	5 periods a week

MUSIC DEPARTMENT.

This department is divided into four sections: Piano section A, piano section B, vocal section, small instrument section.

During the last term of this biennial period, musical instruction has been given to a number of the pupils under the following classification:

Vocal	112
Harmony.....	25
Piano	93
Violin.....	24
Guitar	7
Flute.....	4
Cornet.....	3
Mandolin	3

The following program and course of study will reveal the status of the music department in the college:

CLOSING CONCERT, JUNE 9, 1897.

PART FIRST.

1. " All Honor and Praise," from " Massaniello ".....*Auber*
CHOIR A.
2. Allegro, Andante and Rondo, Op. 48, No. 1 (violin, flute, piano)..*Pleyer*
3. Vocal solo, " Sing, Smile and Slumber," HARVER ARMSTRONG..*Gounod*
DAVID RINKER, Flute.
4. Flute solo, " Affair d'Amour," Valse de Concert.....*Cox*
DAVID RINKER.
5. Piano solo, " Mazurka Caprice ".....*Wilson G. Smith*
MINNIE BONESTEEL.
6. Duo Concertante (for two violins).....*Dancla*
WILLIAM MILLER, O. ANDERSON.
7. { (a.) " Greeting Waltz "*Macy*
{ (b.) Lullaby, from " Erminie ".....LADIES' CHORUS

PART SECOND.

1. Toy Symphony.....*Haydn*
Piano, violins, and seven toy instruments: Cuckoo, Nightingale,
Quail, Rattle, Triangle, Drum and Trumpet.
2. " Bright Glowing Star " (Waltz Aria for Soprano).....*Arditi*
CATHERINE CHISHOLM.
3. Violin solo, " Fantasie," from " Lucretia Borgia ".....*Singelee*
WILLIAM DAVIS.
4. Piano solo, " Pasquinade,".....*Gottschalk*
WILLIAM MILLER.
5. Russian Holiday Chorus, " Welcome Czarina ".....*Macy*
Lady Quartet: CATHERINE CHISHOLM, EMMA REDMOND, MINNIE
BONESTEEL, HILY ALLBEE.
6. " Symphonic March ".....*Beethoven*
COLLEGE VIOLIN CLASS.
7. Soldiers' Chorus, from " Faust ".....*Gounod*
CHOIR A.

PIANO AND HARMONY COURSE.

YEARS.	CHARACTERS OF NOTATION.	LAWS OF COMPOSITION.	THE NATURE OF MUSICAL THOUGHT.	TECHNIC OR POWER TO EXECUTE.	PIANO LITERATURE.
1st.	Length. Pitch. Power of Tones.			<i>Fingers.</i> The mind and muscles. Mechanical finger work. Major scales.	
2d.	Length. Pitch. Power of Tones.			<i>Fingers.</i> Finger work with rhythmic designs. Major and harmonic minor scales. Arpeggios. One octave.	
3d.	Length. Pitch. Power of Tones.			<i>Wrist.</i> Study of wrist movement. Scales and arpeggios, with rhythmic designs. Legato study.	
4th.		Phrasing. Harmony.	Pieces bringing out the nature of Musical Thought—Physical.	<i>Wrist.</i> Study of wrist movement continued. Arpeggio study. Sonatina. Scales rhythmically treated.	of music.
5th.		Phrasing. Harmony.	Ditto—Descriptive.	<i>Arm.</i> Study of arm movement. Melodic minor scales. Octave study. Scales in double thirds and sixths. Velocity exercises. Sonatina.	Ditto.
6th.		Phrasing. Harmony.	Ditto—Suggestive.	<i>Arm.</i> Study of arm movement continued. Chromatic study. Easy sonata. Velocity study of scale passages. Study and analysis of works by Mendelssohn.	Ditto.
7th.		Phrasing. Harmony.	Ditto—Intellectual.	Arpeggio of the Dominant and Seventh Chord. Modulating arpeggios. Study and analysis of the more difficult sonatas.	Ditto.
8th.		Phrasing. Harmony.	Ditto—Emotional.	Velocity, arpeggio, and scale exercises with varied designs. Study and analysis of both German and Italian compositions.	Ditto.
9th.		Phrasing. Harmony.	Ditto—Poetical.	School of octave and bravura playing. Study of artistic use of pedals with compositions requiring special pedal effects. Study and analysis of Chopin.	Ditto.
10th.		Phrasing. Harmony.		Selections from standard composers.	Ditto.

TUNING DEPARTMENT.

This department comprises one section. During the last term of the present biennial period twenty-four young men received instruction in piano tuning and repairing.

INDUSTRIAL DEPARTMENT.

This department comprises three sections: First, sewing; second, fancy work; third, general work. The classification of this department for the last term of the biennial period is—

Sewing	51
Cane seating.....	12
Netting.....	103
Carpet weaving.....	22
Bead work.....	30
Fancy work.....	24
Knitting.....	31

CONCLUSION.

Our crowning need is a gymnasium. Just so long as the college is without one will it be behind the leading institutions for the blind. The situation is as plain as the day. We cannot rank with the best without the facilities of the best. In this connection I beg leave to quote a part of an address delivered before the fourteenth biennial convention of the American Association of Instructors of the Blind, held at Pittsburgh, Pa., July 14, 15, and 16, 1896, by Hon. Henry Phillips, trustee of the Illinois Institute for the Education of the Blind:

When we were appointed trustees, the governor of our state called us together and asked, "What do you know about blind people?" We told him we didn't know very much. "Well, what do you know about institutions for the education of the blind?" We told him we knew less. "Well," said he, "I thought so. Now, I tell you what I want you to do. My object is to have in the state of Illinois not one of the best institutions for the education of the blind, but *the best*; and," said he, "if you don't know anything about these things you ought to go somewhere where you can learn something. I want you to strike out now. Leave Illinois and go east, where it is generally supposed all knowledge rests. Particularly," he said, "you must strike for Boston." We received our orders and started out in good shape. The first place we visited was Brantford. Our object was this: to gain some knowledge or facts that would guide us as to the utility and benefit of a gymnasium. They thought if we could have a gymnasium we would have a heaven for teaching blind children in. At Brantford we received the kindest treatment that gentlemen could receive at the hands of a gentleman—a thorough gentleman, Mr. Dymond. He gave us some ideas and showed us his building. We went to Batavia. We found there that the best gymnasium they had was their chapel and they had but very

little use for it as a gymnasium room. We went to New York city and were met with the utmost kindness by Mr. Wait, the superintendent, who gave us his views upon gymnasiums and upon New York Point. Mr. Morrison gave us his views at Baltimore, and at Boston Mr. Anagnos gave us his views.

I might remark here that while in Brantford a gentleman called my attention to two persons who were some distance from us, and said, "Are those blind people or seeing persons?" Their backs were to us. I judged from the way they stood—straighter than I do, and the way they walked, with such freedom and independence, that they must necessarily be seeing people. But he told me they were blind persons. "But," he said, "that is the result of teaching gymnastics."

We came home and went to the governor and told him all that we had heard and seen, and he said, "The legislature will help you to build a gymnasium if you only go at them right." Our superintendent figured that it would take about \$10,000 to build it. My experience with the Illinois legislature is this: If you present a matter to them that strikes them as reasonably fair, you are pretty sure to get a favorable hearing. We presented the matter to the Illinois legislature through the proper committee. We said to that committee: "If you give us this \$10,000 we will build a gymnasium, and then we will have the best school in America for the instruction of the blind." Strange as it may seem, they cut down some of the appropriations that we wanted and gave us the \$10,000 with which we built the gymnasium. It is 78 by 40 feet, and 30 feet high, with not a pillar in it, no plastering on it; smooth walls and painted.

Now, if any disbeliever in a gymnasium could go to that building about the time the children are turned in there, he would be converted to this idea. No matter how good your literary exercises may be, how thorough your instruction, or how well your mechanical department is carried on, the work will be incomplete without the gymnasium. There the children learn to be free and independent, get rid of a shuffling gait, straighten up their crooked shoulders, and become like seeing men and women.

I have the honor to be your obedient servant,

T. F. McCUNE.

STATISTICS
— OF —
PUPILS ENROLLED.

STATISTICS OF PUPILS ENROLLED DURING THE PERIOD.

NAME.	POSTOFFICE ADDRESS.	COUNTY.	NATIVITY.	CAUSE OF BLINDNESS.	How long blind.	DATE OF ADMISSION.	Sex
1 Samuel A. Anderson.....	Decorah.....	Winnebago	Iowa.....	Retinitis pigmentosa.	.....	April 20, 1902.	M
2	Decorah	Winnebago	Iowa	Retinitis pigmentosa.	.....	April 20, 1902.	M
3	Clarion	Wright	Illinois.....	.....	.....	September 7, 1902.	M
4	Clarion	Wright	Illinois.....	.....	.....	September 7, 1902.	M
5	Waterloo.....	Black Hawk	Iowa.....	Ulcerated cornea.....	4 years.	September 7, 1902.	F
6	Waterloo.....	Black Hawk	Iowa.....	Ulcerated cornea.....	4 years.	September 7, 1902.	F
7	Webster City..	Hamilton	Iowa.....	Accident.....	.....	December 24, 1902.	F
8 Venus Ashmore.....	Villisca.....	Montgomery	Ohio.....	Congenital.....	.....	March 9, 1903.	F
9	Villisca.....	Montgomery	Ohio.....	Congenital.....	.....	September 4, 1903.	F
10 Ida Appleton.....	Vinton.....	Benton	Iowa.....	Congenital.....	11 years.	September 4, 1903.	F
11	Freeport.....	Winnebago	Iowa.....	Congenital.....	8 years.	September 4, 1903.	F
12	Robins.....	Linn	Iowa.....	Cataract.....	.....	September 21, 1903.	F
13	Spencer.....	Olney	Iowa.....	Congenital.....	.....	September 4, 1903.	M
14	Vinton.....	Benton	Iowa.....	Congenital.....	1 year.	January 8, 1903.	M
15	Manchester.....	Delaware	Ohio.....	Accident.....	.....	February 8, 1903.	M
16	Frederonia.....	Louisa	Nebraska.....	.....	11 years.	September 12, 1904.	F
17	Iowa City.....	Johnson	Iowa.....	Atrophy of optic nerve	6 years.	September 17, 1905.	F
18	Terrill.....	Dickinson	Iowa.....	Congenital.....	.....	October 20, 1907.	F
19	Urbana.....	Benton	Nebraska.....	.....	1 year.	November 28, 1902.	F
20	Urbana.....	Benton	Nebraska.....	.....	1 year.	April 4, 1900.	F
21	West Bend.....	Palo Alto	Iowa.....	Ophthalmia.....	8 years.	October 12, 1902.	M
22	Garwin.....	Tama	Iowa.....	Paralysis of optic nerve	8 years.	September	F
23	Vinton.....	Benton	Iowa.....	Scarlet fever	8 years.	September	F
24	Guthrie Center	Guthrie	Iowa.....	Accident.....	1/2 year.	September	M
25	New Hartford.	Butler	Iowa.....	.....	.....	September	M
26	Vinton.....	Benton	Iowa.....	Stroke.....	4 years.	September	M
27	Iowa Falls.....	Hardin	Iowa.....	Stroke.....	4 years.	September	M
28	Sibley.....	Osceola	Iowa.....	Stroke.....	1 year.	September	F
29	Casey.....	Adair	Iowa.....	Stroke.....	23 years.	September	F
30	Urbana.....	Benton	Iowa.....	Stroke.....	8 years.	November	M
31	Winterset.....	Benton	Iowa.....	Stroke.....	8 years.	October 2, 1903.	M
32	Tama.....	Madison	Iowa.....	Stroke.....	11 years.	September 2, 1902.	F
33	Garrison.....	Tama	Iowa.....	Stroke.....	10 years.	September 22, 1906.	M
34	Rock Dale.....	Benton	Iowa.....	Stroke.....	13 years.	January 20, 1907.	M
35	Ames.....	Dubuque	Germany.....	Stroke.....	.....	September 2, 1901.	M
36	Sibley.....	Osceola	Iowa.....	Stroke.....	4 years.	January 2, 1901.	F
37	Frederonia.....	Louisa	Iowa.....	Stroke.....	8 years.	September 2, 1905.	F
38	Frederonia.....	Louisa	Iowa.....	Stroke.....	8 years.	September 2, 1905.	F

Persons continuing
in the school for 1905

STATISTICS OF PUPILS ENROLLED DURING THE PERIOD—CONTINUED.

Number.	NAME.	POSTOFFICE ADDRESS.	Age at admission.	COUNTY	NATIVITY.	CAUSE OF BLINDNESS.	How long blind.	DATE OF ADMISSION.	Sex.
88	Albert Heiser.	Keokuk.	18	Lee.	Iowa.	Accident.	7 years.	September 12, 1893.	M
89	Leslie F. Hake.	Armstrong.	11	Emmet.	Iowa.	Congenital.	.....	December 4, 1893.	M
90		Armstrong.	8	Emmet.	Iowa.	.....	.....	December 6, 1893.	F
91		Stone City.	10	Jones.	Iowa.	.....	10 years.	April 3, 1894.	M
92		Armstrong.	14	Emmet.	Iowa.	.....	.....	September 6, 1894.	F
93		Delaware.	14	Delaware.	Iowa.	Fever.	12 years.	November 11, 1893.	F
94		Koesta.	8	Iowa.	Iowa.	Spinal disease.	8 years.	September 3, 1895.	F
95		Vinton.	15	Benton.	Iowa.	.....	.....	September 4, 1895.	F
96		Vinton.	11	Benton.	Iowa.	.....	.....	September 4, 1895.	M
97		Vinton.	6	Benton.	Minnesota.	.....	.....	September 4, 1895.	M
98		Lamoni.	7	Decatur.	California.	.....	.....	September 5, 1895.	F
99		Decorah.	8	Winnebago.	Norway.	.....	.....	September 5, 1895.	F
100		Boone.	13	Boone.	Nebraska.	.....	.....	September 7, 1895.	F
101		Thorn.	23	Cerro Gordo.	Nebraska.	.....	.....	March 5, 1893.	M
102		Stuart.	18	Guthrie.	Iowa.	Staphylococci.	.....	March 2, 1896.	F
103		Ayrshire.	17	Palo Alto.	Illinois.	Congenital.	.....	October 27, 1893.	F
104		Tama.	14	Tama.	Iowa.	Accident.	12 years.	October 28, 1893.	F
105		Shellaburg.	17	Benton.	Iowa.	.....	.....	January 7, 1897.	F
106		Wota.	7	Case.	Iowa.	Brain fever.	6 years.	January 15, 1897.	F
107		Swanton.	7	Butler.	Iowa.	Congenital.	.....	April 4, 1893.	M
108		Waukon.	16	Adams.	Iowa.	Accident.	16 years.	September 18, 1893.	F
109		Briscoe.	7	Benton.	Iowa.	Accident.	8 years.	September 20, 1893.	M
110		Vinton.	5	Benton.	Iowa.	Measles.	4 years.	September 9, 1891.	F
111		Des Moines.	12	Polk.	Iowa.	Hemiplegia.	.....	March 8, 1894.	F
112		Shueyville.	10	Johnson.	Iowa.	Smallpox.	9 years.	September 8, 1890.	M
113		Lisbon.	7	Linn.	Iowa.	Congenital.	.....	September 14, 1892.	F
114		Urbana.	14	Benton.	Iowa.	Congenital.	.....	January 7, 1895.	F
115		Dubuque.	15	Dubuque.	Iowa.	Brain fever.	7 years.	September 5, 1895.	F
116		Mt. Vernon.	14	Linn.	Iowa.	Congenital.	.....	September 18, 1893.	M
117		Shellaburg.	16	Benton.	Iowa.	Congenital.	.....	October 13, 1895.	F
118		Cedar Valley.	10	Cedar.	Iowa.	.....	.....	November 17, 1890.	M
119		Crystal.	9	Tama.	New Jersey.	.....	5 years.	September 6, 1893.	M
120		Toledo.	18	Tama.	Iowa.	.....	.....	September 4, 1894.	F
121		Cedar Rapids.	13	Linn.	Indiana.	Scrophulous.	4 years.	October 2, 1895.	F
122		Goldfield.	15	Wright.	Kansas.	Granulation.	8 years.	November 4, 1894.	F
123		Urbana.	9	Franklin (N. H.).	Iowa.	Accident.	4 years.	October 17, 1894.	F
124		Vinton.	97	Hennepin.	Iowa.	.....	.....	October 20, 1895.	F

125	Emma A. Lyons.	Plankinton.	13	Aurora (B. D.)	Iowa.	Measles.	November 4, 1885.
126	Drucilla Long.	Vinton.	14	Benton.	Illinois.	Accident.	September 7, 1885.
127	Elta Lytle.	Des Moines.	15	Polk.	Tennessee.	Accident.	April 10, 1885.
128	Malcom Miles.	Maquoketa.	16	Jackson.	Iowa.	Accident.	September 14, 1885.
129	James McOwally.	Sioux City.	17	Woodbury.	Iowa.	Ophthalmia.	September 24, 1885.
130	Ernest L. Morris.	Vinton.	18	Benton.	Ohio.	Whooping cough.	September 16, 1885.
131	Arthur E. McIntire.	Grissold.	19	Ues.	Iowa.	Congenital.	September 2, 1885.
132	Christie McKende.	Wellman.	20	Washington.	Iowa.	Congenital.	January 8, 1885.
133	Myra E. McCormick.	Oedar Rapids.	21	Linn.	Iowa.	Congenital.	November 10, 1885.
134	William Miller.	Oedar Falls.	22	Black Hawk.	Ireland.	Congenital.	September 11, 1885.
135	Michael McDonnell.	Ottumwa.	23	Wapello.	Kansas.	Congenital.	March 7, 1887.
136	Charles E. Millisack.	Clinton.	24	Wright.	Kansas.	Congenital.	January 2, 1891.
137	Josephine Middelow.	Dows.	25	Tama.	Iowa.	Cataract.	September 4, 1888.
138	Leta B. Milnes.	Toledo.	26	Linn.	Iowa.	Brain fever.	April 28, 1889.
139	Frank McOlnahey.	Troy Mills.	27	Black Hawk.	Iowa.	Muscular antheronitis.	September 4, 1894.
140	Melvina Millard.	Hudson.	28	Oscola.	Iowa.	Spinal meningitis.	September 4, 1885.
141	Oscar J. McManus.	Sibley.	29	Sioux.	Iowa.	Measles.	February 4, 1885.
142	William J. Miller.	Boyd.	30	Decatur.	Missouri.	Congenital.	September 4, 1884.
143	Charles N. Monte.	Davis City.	31	Pottawattamie.	Indiana.	Congenital.	September 17, 1885.
144		Council Bluffs.	32	Linn.	Kansas.	Congenital.	September 20, 1885.
145		South English.	33	Jasper.	Iowa.	Measles.	October 20, 1885.
146		Viola.	34	Scott.	Missouri.	Congenital.	November 18, 1885.
147		Newton.	35	Adair.	Iowa.	Typhoid fever.	February 16, 1884.
148		Davenport.	36	Jasper.	Iowa.	Accident.	September 21, 1884.
149		Sioux.	37	Guthrie.	Iowa.	Accident.	September 24, 1885.
150		Kellons.	38	Marion.	Iowa.	Congenital.	September 21, 1885.
151	Earl G. Mercer.	Avoca.	39	Pottawattamie.	Denmark.	Scrofula.	September 20, 1884.
152	Charles R. Newton.	Reinbeck.	40	Tama.	Ireland.	Accident.	January 2, 1894.
153		Eldon.	41	Wapello.	Iowa.	Granulation.	September 2, 1891.
154		Webster City.	42	Hamilton.	Iowa.	Accident.	January 14, 1888.
155		Webster City.	43	Mabaska.	Iowa.	Accident.	September 4, 1888.
156		Pekay.	44	Benton.	Iowa.	Accident.	September 6, 1888.
157		Vinton.	45	Clinton.	Denmark.	Accident.	January 11, 1897.
158		Lyons.	46	Poweshiek.	Iowa.	Ophthalmia.	December 28, 1888.
159		Brooklyn.	47	Linn.	Iowa.	Accident.	September 2, 1888.
160		Oedar Rapids.	48	Lee.	Iowa.	Accident.	September 2, 1888.
161		Keokuk.	49	Jackson.	Iowa.	Accident.	September 4, 1888.
162		Maquoketa.	50	Wapello.	Iowa.	Accident.	September 6, 1888.
163		Eldon.	51	Benton.	Iowa.	Congenital.	September 1, 1891.
164		Shellsburg.	52	Wapello.	New York.	Ophthalmia.	September 2, 1885.
165		Ottumwa.	53	Delaware.	Iowa.	Scrofula.	October 1, 1884.
166		Manchester.	54	Monona.	Iowa.	Accident.	October 8, 1891.
167		Uta.	55	Humboldt.	Iowa.	Accident.	September 1, 1888.
168		Humboldt.	56	Humboldt.	Iowa.	Accident.	September 1, 1888.
169		Humboldt.	57	Plankinton.	Pennsylvania.	Accident.	January 14, 1882.
170		Plankinton.	58	Aurora (B. D.)	Iowa.	Accident.	March 14, 1888.
171		Salem.	59	Henry.	Iowa.	Accident.	March 14, 1888.

STATISTICS OF PUPILS ENROLLED DURING THE PERIOD—CONTINUED.

232	Sarah E. Clayton	Oelwein	15	Fayette,	Iowa	Measles	6 years	September 7, 1895	F
233	Mary A. Skinner	Houghton	7	Lee	Iowa	Measles	6 years	October 19, 1895	F
234	Harry L. Stout	Marion	13	Linn	Iowa	Congenital	1 year	October 20, 1895	M
235	Francis W. Schnitz	Corning	11	Adams	Kansas	Congenital	1 year	January 10, 1896	M
236	Roy Sanderson	Miles	13	Jackson	Kansas	Accident	1 year	September 1, 1896	M
237	Willard W. Seider	Glidden	13	Carroll	Iowa	Scrofula	1 year	September 2, 1896	M
238	Thomas K. Strand	Sedgwick	13	Hyde (S. D.)	Norway	Congenital	1 year	February 12, 1897	M
239	Mae E. Trainor	Blessing	17	Black Hawk	Iowa	Congenital	1 year	September 3, 1891	F
240	Minnie M. Talbot	Linden	13	Dallas	Iowa	Congenital	1 year	September 3, 1894	F
241	Charles A. Tryon	Manilla	13	Orawford	Iowa	Congenital	1 year	September 4, 1895	F
242	Mildred W. Tripp	Edgewood	8	Delaware	Iowa	Congenital	1 year	March 18, 1896	F
243	Mazie L. Turney	Plankinton	16	Aurora (S. D.)	Wisconsin	Congenital	1 year	September 2, 1896	F
244	Albert Thomas	Mt. Auburn	7	Benton	Iowa	Accident	3 years	September 2, 1896	F
245	Ruley A. Tryon	Manilla	16	Orawford	Iowa	Scrofula	3 years	September 5, 1896	F
246	Mabel E. Usher	Des Moines	16	Polk	Iowa	Scrofula	3 years	September 14, 1893	F
247	Kate Vermilyea	Vinton	7	Benton	Iowa	Scarlet fever	3 years	September 14, 1893	F
248	Wesley Vert	What Cheer	10	Keokuk	Iowa	Brain fever	1 year	January 20, 1890	F
249	Henrietta Vittum	Reinbeck	19	Black Hawk	Iowa	Measles	4 years	April 5, 1891	F
250	Guy G. Whipple	Urbana	8	Benton	Iowa	Measles	4 years	October 14, 1895	F
251	Nicholas Weber	Independence	10	Suchanan	Iowa	Congenital	4 years	September 7, 1897	M
252	John E. Wyatt	Hull	7	Stout	Wisconsin	Congenital	4 years	September 7, 1897	M
253	Anthony Wade	Council Bluffs	13	Pottawattamie	Iowa	Accident	4 years	September 8, 1894	M
254	Cora E. Whitehead	Shell Rock	11	Butler	Iowa	Congenital	4 years	September 8, 1895	M
255	Bertha E. Witmer	Mingo	15	Jasper	Iowa	Congenital	15 years	September 2, 1895	F
256	Ida Walker	Yarmouth	15	Des Moines	Iowa	Cataract	15 years	September 2, 1895	F
257	Fred Woodard	Des Moines	15	Polk	Iowa	Accident	11 years	September 2, 1895	F
258	Estella West	Sutherland	13	O'Brien	Minnesota	Inflammation	11 years	September 2, 1895	F
259	Maud Wilkins	Indianola	7	Warren	New York	Scrofula	13 years	September 2, 1895	F
260	Mary Walker	Flaglers	10	Marion	Indiana	Scrofula	13 years	September 2, 1895	F
261	Eather Walker	Flaglers	8	Marion	Illinois	Measles	6 years	September 2, 1895	F
262	Emma J. Wester	Des Moines	9	Polk	Illinois	Measles	6 years	September 2, 1895	F
263	Clarence B. Young	Vinton	10	Benton	Iowa	Scarlet fever	6 years	September 2, 1895	F
264	Mary Yohum	Spragueville	11	Jackson	Iowa	Congenital	13 years	October 5, 1896	F
265	Forest Young	Yorktown	13	Paga	Iowa	Congenital	13 years	September 5, 1896	F
266	Bertha Zwicker	Blue Grass	11	Scott	Iowa	Congenital	13 years	January 5, 1897	F

TREASURER'S REPORT.

Treasurer's Report.

For the biennial period ending June 30, 1897.

SPECIAL APPROPRIATIONS.

BY THE TWENTIETH GENERAL ASSEMBLY.

Balance on hand from last report:

For library and school apparatus.....	\$.32
For employing an expert oculist.....	700.00

BY THE TWENTY-FIRST GENERAL ASSEMBLY.

Balance on hand from last report:

For constructing cisterns.....	20.03
For building cupolas and porches.	10.18
For repairs to outside woodwork and plastering.....	.22

BY THE TWENTY-SECOND GENERAL ASSEMBLY.

Balance on hand from last report:

For contingent and repairs.....	.45
For bedding and furniture.....	.12
For library and school apparatus.....	.96
For washing machine	59.84

Total balance	\$ 792.12
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EXPENDITURES.

Of the balance on hand of the appropriations of the Twentieth General Assembly we have expended as follows:

For library and school apparatus, .32, leaving no balance.

For employing an expert oculist, nothing expended; balance on hand.....\$ 700.00

Of the balance on hand of the appropriations of the Twenty-first General Assembly we have expended as follows:

For constructing cisterns, \$20.03, leaving no balance.

For building cupolas and porches, \$10.18, leaving no balance.

For repairs to outside woodwork and plastering, .22, leaving no balance.

Of the balance on hand of the appropriations of the Twenty-second General Assembly we have expended as follows:

For contingent and repairs, .45, leaving no balance.

For bedding and furniture, .12, leaving no balance.

For library and school apparatus, .96, leaving no balance..

For washing machine, nothing expended; balance on hand.... \$ 59.84

Of the special appropriations of the Twenty-fourth General Assembly, we have received from the state since last report, as follows:

For bedding and furniture, \$569.10, and have expended \$569.10.

Of the special appropriations of the Twenty-fifth General Assembly, we have received from the state since last report, as follows:

For contingent and repairs, \$1,500, and have expended \$1,500 .

For painting, \$500, and have expended \$500.

For bedding and furniture, \$500, and have expended \$500.

For cement floors and walks, \$120, and have expended \$120.

Of the special appropriations of the Twenty-sixth General Assembly, we have received from the state since last report, as follows:
For contingent and repairs, \$1,075.10, and have expended \$1,075.10.
For bedding and furniture, \$491.22, and have expended \$491.22.
For painting, \$428.88, and have expended \$428.88.
For brick laundry building and slate roof, \$5,000, and have expended \$5,000.

RECEIPTS.

1895.			
July	1.	Balance on hand.....	\$ 72 12
Aug.	6.	State appropriation for bedding and furniture, Twenty-fourth General Assembly.....	569.11
Aug.	6.	State appropriation for contingent and repairs, Twenty-fifth General Assembly.....	1,035.50
Aug.	6.	State appropriation for painting, Twenty-fifth General Assembly.	231.96
Sept.	3.	State appropriation for painting, Twenty-fifth General Assembly.	225.62
Sept.	3.	State appropriation for contingent and repairs, Twenty-fifth General Assembly.....	271.50
Nov.	7.	State appropriation for bedding and furniture, Twenty-fifth General Assembly.....	123.04
1896.			
Jan.	8.	State appropriation for contingent and repairs, Twenty-fifth General Assembly.....	50 40
Jan.	8.	State appropriation for bedding and furniture, Twenty-Fifth General Assembly.....	150.88
July	8.	State appropriation for painting, Twenty-fifth General Assembly.	43.45
July	8.	State appropriation for contingent and repairs, Twenty-fifth General Assembly.	174.25
July	8.	State appropriation for bedding and furniture, Twenty-Fifth General Assembly.....	236.11
Aug.	4.	State appropriation for bedding and furniture, Twenty-Sixth General Assembly	125.52
Aug.	4.	State appropriation for contingent and repairs, Twenty-sixth General Assembly.....	575.50
Aug.	4.	State appropriation for painting, Twenty-sixth General Assembly.	188.30
Sept.	1.	State appropriation for bedding and furniture, Twenty-sixth General Assembly	364.50
Sept.	1.	State appropriation for contingent and repairs, Twenty-Sixth General Assembly	275.40
Sept.	1.	State appropriation for painting, Twenty-sixth General Assembly.	240.25
Oct.	7.	State appropriation for brick laundry and slate roof, Twenty-sixth General Assembly.....	2,390.00
Nov.	5.	State appropriation for brick laundry and slate roof, Twenty-sixth General Assembly.....	1,460.00
1897.			
Jan.	6.	State appropriation for brick laundry and slate roof, Twenty-sixth General Assembly..	541.00
May	4.	State appropriation for brick laundry and slate roof, Twenty-sixth General Assembly.....	135.25
June	9.	State appropriation for brick laundry and slate roof, Twenty-sixth General Assembly.....	166.75
June	9.	State appropriation for contingent and repairs, Twenty-sixth General Assembly.....	101.75
June	9.	State appropriation for cement floors and walks, Twenty-fifth General Assembly.....	120.00
Total			\$10,970.45
Total expenditures.....			10,216.70
Balance in treasury.....			\$ 753.75

CURRENT EXPENSE ACCOUNT.

RECEIPTS.

1895.	
July 1.	Balance in the treasury.....\$ 7,188.93
July 3.	State appropriation, current expense..... 6,820.00
July 3.	State appropriation, salaries..... 2,500.00
July 3.	State appropriation, pupils' clothing..... 468.27
Oct. 2.	State appropriation, current expense..... 5,560.00
Oct. 2.	State appropriation, salaries..... 2,500.00
1896.	
Jan. 8.	State appropriation, current expense..... 7,240.00
Jan. 8.	State appropriation, salaries..... 2,500.00
Jan. 8.	State appropriation, pupils' clothing..... 640.32
April 8.	State appropriation, current expense..... 6,800.00
April 8.	State appropriation, salaries..... 2,500.00
July 8.	State appropriation, pupils' clothing..... 867.48
Oct. 7.	State appropriation, current expense.. 5,600.00
Oct. 7.	State appropriation, salaries..... 2,500 00
1897.	
Jan. 6.	State appropriation, current expense..... 6,680.00
Jan. 6.	State appropriation, salaries..... 2,500.00
Jan. 6.	State appropriation, pupils' clothing..... 532.64
April 8.	State appropriation, current expense..... 6,640.00
April 8.	State appropriation, salaries..... 2,500.00
<hr/>	
Total.....	\$71,537.64
For support of pupils from outside the state.....	\$1,172.15
For the support of Linnie Haguewood.....	500.00
For hogs and cattle sold.....	573.85
For nets and hammocks sold..	655.14
For fancy articles sold.....	70.85
From sewing department.....	121.50
For postage sold.....	207.00
For sundry sales.....	328.72
<hr/>	
Total.....	\$ 3,629.21
<hr/>	
Total receipts.....	\$75,166.85
Total expenditures.....	69,151.05
<hr/>	
Balance in treasury.....	\$ 6,075.80

CURRENT EXPENSE FUND.
CLASSIFIED EXPENDITURES.

MONTHS.	Meat, lard, and fat.	Bread stuffs.	Fruit and vegetables.	Coffee and tea.	Sugar and syrup.	Dairy groceries.	Butter.	Cheese and eggs.	Soap.	Medicinal supplies.	Dry goods and clothing.
Expenditures for July, 1885.	\$ 54 12	\$ 13 07	\$ 77 43	\$ 6 50	\$ 15 00	\$ 12 03	.....	\$ 6 66	\$ 4 00	\$ 5 95	\$ 21 26
Expenditures for August, 1885.	120 28	23 18	60 22	22 50	15 00	20 98	.....	4 02	19 27	2 45	180 23
Expenditures for September.	248 09	144 08	116 91	26 00	43 46	43 13	.....	14 12	8 26	4 05	29 25
Expenditures for October.	237 96	212 80	547 93	37 83	38 59	33 38	\$ 256 40	76 50	33 75	8 25	53 80
Expenditures for November.	236 10	197 21	155 06	37 85	49 70	43 04	66 80	63 00	4 90	.....	9 25
Expenditures for December.	229 13	141 07	36 43	31 05	54 50	59 63	.....	.....	11 25	50	600 08
Expenditures for January.	301 72	153 88	60 13	54 86	69 28	48 28	.....	2 33	15 25	4 35	29 73
Expenditures for February.	272 48	187 82	30 72	53 00	53 11	56 04	.....	11 55	22 25	3 83	9 07
Expenditures for March.	261 18	152 39	30 13	25 00	41 07	40 30	.....	107 58	20 65	.....	46 60
Expenditures for April.	282 54	136 86	61 32	35 00	79 06	33 11	72 06	23 26	15 25	3 25	6 34
Expenditures for May.	193 76	132 60	105 95	43 86	80 67	36 60	116 88	4 27	33 75	1 25	381 55
Expenditures for June.	91 73	58 20	130 42	19 93	33 00	41 50	186 64	1 50	5 90	2 00	3 29
Expenditures for July.	73 57	14 84	77 45	15 60	33 00	19 61	205 20	53	4 03	1 50	22 41
Expenditures for August.	56 21	20 44	40 95	38 60	35 20	58 16	.....	3 65	10 75	.....	78 54
Expenditures for September.	236 70	139 87	123 53	26 00	61 11	35 59	268 90	14 68	55 55	.....	23 57
Expenditures for October.	213 46	145 73	519 40	26 00	49 26	36 59	.....	34 69	11 75	2 40	65 53
Expenditures for November.	238 74	142 51	201 76	52 00	46 30	28 82	.....	18 00	14 25	1 00	32 34
Expenditures for December.	242 93	146 07	38 63	51 86	60 50	67 11	.....	18 90	10 75	3 20	634 28
Expenditures for January.	253 53	153 99	26 10	79 00	45 00	33 55	.....	37 29	4 40	1 00	7 51
Expenditures for February.	257 17	145 24	38 60	25 00	31 10	14 97	.....	10 55	14 25	.....	25 71
Expenditures for March.	201 08	145 68	61 68	50 00	59 20	45 30	55 01	39 90	11 25	1 05	68 07
Expenditures for April.	255 76	135 45	38 55	27 30	65 51	41 07	102 12	67 78	69 12	.....	16 38
Expenditures for May.	187 77	115 47	62 75	24 00	43 50	67 33	121 38	17 70	10 25	.....	297 00
Expenditures for June.	73 19	50 42	89 96	12 00	31 55	31 03	419 88	1 50	2 90	.....	2 63
Total.	\$4,961.56	\$3,916.83	\$2,712.76	\$961.50	\$1,190.13	\$989.06	\$3,025.27	\$531.14	\$414.85	\$46.07	\$2,744.97

RECAPITULATION.

Balance on hand from last report—special appropriations.....	\$	792.12
Balance on hand from last report—current expense fund.		7,188 93
Received from the state since last report—special appropriations		10,184.30
Received from the state since last report—current expense fund.		64,848.71
Received from other sources since last report—current expense fund		3,629.21
Total receipts from all sources.....	\$	86,143.27
Expenditures since last report—special appropriations	\$	10,216.56
Expenditures since last report—current expense fund.....		69,151 05
Total expenditures for all purposes		79,367.63
Balance in treasury July 1, 1897—special appropriations.....		750.84
Balance in treasury July 1, 1897—current expense fund.....		6,015.80
Total	\$	86,143 27

R. A. SCHROEDER,
Treasurer.

THIRD BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

OF THE

Iowa Industrial Home for Blind

TO THE

GOVERNOR OF THE STATE OF IOWA,

For the Biennial Period Ending June 30, 1897.

DES MOINES:
F. R. CONAWAY, STATE PRINTER.
1897.

LIST OF OFFICERS.

TRUSTEES.

J. H. NICHOLS, *President* Des Moines
J. B. ELLIOTT, *Treasurer* Knoxville
ROBERT COLBERT, *Secretary* Cromwell
MISS LORANA MATTICE Vinton
H. H. STILWELL Waukon
M. J. KELLY Williamsburg

RESIDENT OFFICERS.

CAM. CULBERTSON, *Superintendent* Knoxville
MRS. M. F. CULBERTSON, *Matron* Knoxville
J. E. HARMES, *Foreman Shops* Knoxville

AUDITING COMMITTEE.

J. H. NICHOLS. J. B. ELLIOTT. ROBERT COLBERT.

FINANCE COMMITTEE.

H. H. STILWELL. MISS LORANA MATTICE. ROBERT COLBERT.

BUILDING AND SUPPLIES COMMITTEE.

J. B. ELLIOTT. H. H. STILWELL. MISS LORANA MATTICE.

TRUSTEES' REPORT.

KNOXVILLE, IOWA, August 19, 1897.

To Hon. F. M. Drake, Governor of Iowa:

In presenting herewith for your consideration this, the third biennial report of the board of trustees, treasurer, and superintendent of the Industrial Home for the Blind, it is with a degree of satisfaction that we are able to note and record marked improvement, not only in the management and general conduct of the institution, but in the quality and quantity of the commodities manufactured. It is but natural to expect that the board should have been able to profit by experience and observation gained through continuous service by a majority at least of the present board since the opening of the Home, and such has been the case, though the fact that the manufactured product of the institution now finds a more ready and satisfactory market in competition with the best factories of the west is due more largely to the efficient management of the shops and the increased skill of the inmates who have striven to excel, who, with the exception of those more recently admitted, are now able to turn out more satisfactory work than formerly.

It is gratifying to note in this connection that the standard of excellence of the manufactured product has steadily improved and that the finished work of the shops now ranks with that of the best factories of the state. It is also noteworthy that the product of our factory is finding favor even beyond the confines of the state, many substantial orders from neighboring states having been recently filled.

At a meeting of the board of trustees held in June, 1896, Mr. and Mrs. Cam. Culbertson, of Knoxville, were elected respectively superintendent and matron of the home, succeeding Mr. and Mrs. M. C. Gebhardt, and assumed charge July 1,

1896. At the regular meeting of the board in May of the present year, they were unanimously re-elected, and we feel in this connection to say of them that their services have been very satisfactory, and that to their zealous efforts in behalf of the institution, its inmates and employes, is largely due the harmonious feeling prevailing, and that to their economical management, aided by the present efficient shop foreman, Mr J. E. Harmes, is due the producing of a largely increased output without materially adding to the expense.

The records of the superintendent's office show that for the first biennial period ending June 30, 1893, the shops turned out 6,449 dozen brooms; for the second biennial period ending June 30, 1895, there were manufactured 8,411 dozen brooms; and for the third biennial period ending June 30, of the present year, the output aggregated 12,105 dozen brooms and a corresponding increase in the other commodities manufactured.

If the amendment of the law governing this institution (which the board understands to have been passed at the recent extra session of the legislature and which we understand provides for the admission of all the indigent blind of the state regardless of physical or mental condition) is to become operative, then immediate steps must be taken to provide for the reception and accommodation of such as choose to come.

Under the rules and regulations adopted by the board of trustees, which are incorporated as a part of this report, applicants have been admitted only after a thorough examination into their physical and mental condition and upon the certificate of a physician that they were reasonably able-bodied and of sound mind. In thus approving the applications of those who would be more likely to be self-sustaining, the capacity of the institution is now taxed to its utmost, not only in the dormitories, but in the workshops as well, and even though inmates in the future were admitted under present restrictions it is imperative that liberal appropriations be made for enlarging the capacity of the shops and sleeping apartments of the inmates.

To properly provide for this, the present shops should be converted into sleeping apartments and a roomy and commodious workshop and factory be built, separated, but near the main building; and we urge upon the legislature the urgent necessity of the appropriation asked for in this item. Your

especial attention is called to that portion of the superintendent's report relating to this matter.

In basing our needs for the proper maintenance of the institution for the next biennial period, it has been with the intention of asking of the legislature only that which we deem absolutely necessary, and that which will enable us to take advantage of favorable markets and opportunities in purchasing supplies for the home and shops. If the institution in its present capacity of an industrial home for the adult blind is to be changed, admitting all the blind of the state without any restriction, the appropriations asked for will be found to be totally inadequate to maintain it.

After carefully considering the needs of the Home in its present condition, we ask that for the next biennial period there be appropriated by the legislature the following items and amounts:

For salary and subsistence fund.....	\$ 15,000
For manufacturing fund	4,000
For contingent fund.....	4,500
For building brick work shop.	10,000
For lighting the home	800

We hope that, as was done with the appropriation of the last general assembly, provision will be made for drawing, when needed, all of the appropriation for the manufacturing fund.

In concluding this report, permit us to say of this institution, now in its infancy and one of the few similar institutions in the United States, that it has in our judgment a bright future; and that as the years go by, profiting by the experience of the past, fostered by the generous and progressive people of this great state through their legislature, and under the wise guidance of future boards of trustees, it shall yet attain to greater usefulness and be, in an increased measure, the one bright spot that this unfortunate class shall be, as they now are, proud and thankful to call home.

On behalf of the board of trustees,

ROBERT COLBERT,
Secretary.

J. H. NICHOLS,
President.

SUPERINTENDENT'S REPORT.

KNOXVILLE, IOWA, June 30, 1897.

To the Honorable Board of Trustees of the Industrial Home for the Blind:

GENTLEMEN—In accordance with the rules and regulations governing the Home requiring the superintendent to make a report of the condition and affairs of the institution, I herewith respectfully submit to you my report for the biennial period ending June 30, 1897.

The last year of the period just ended is the first year in which the affairs of the home have been under the supervision and management of your present superintendent.

The monthly statements of receipts and expenditures, articles manufactured and sold, etc., have been carefully gleaned from the books, vouchers, and files of the office, and, together with the recommendations herein contained, are presented for your consideration.

During the past year the health of the inmates has been very good. There have been some slight ailments, such as would readily yield to ordinary treatment, but there has been no serious case of sickness among the inmates. Yet with a sad and sorrowing heart I must record one death at the Home, that of little Bunnie Culbertson, the bright, loving and lovable eleven-year-old daughter of your superintendent and matron. She was taken with membranous croup and died suddenly January 26, 1897. She came into the Home as a ray of sunshine to the blind, and her death cast a deep gloom over the entire household. I cannot refrain from here expressing the deep and lasting sense of gratitude of myself and wife to all the inmates, for their many tokens of love and sympathy bestowed upon us and ours in that dark hour of our sore bereavement.

The general conduct of the inmates the past year has been good. There have been slight infractions of the rules, it is true, but nothing calling for special discipline has occurred among them. They are entitled to commendation for good behavior and industry. They all seem to realize that at no other place in all this broad land can they do so well for themselves as here. They comprehend the fact that the object of the home is to assist the blind to help themselves. That while here they have all the comforts and conveniences of a pleasant home and workshop combined. Here they are given employment at which they may acquire self-supporting skill and while thus engaged in cheerful labor forget their deprivation and the darkness that envelops them. All assignments of duty and allotments of work are made upon a basis of adaptation. Each works at that for which he is specially fitted, and is paid what he earns.

Under the supervision and instruction of our efficient foreman, Mr. J. E. Harmes, the workmanship in the shop has steadily improved, and our product is received with much more favor than formerly, as is evidenced by the increased output and sales, and from the further fact that few brooms are returned, refused, as compared to former years. You will notice the remarkable whisk trade growth during the last period.

The hammock and net industry has not increased in the same ratio as that of the brooms and whisks. Some bead work is still done by the girls, but articles made are slow sale and the returns for the labor unprofitable. The blind girls also do house work and assist in the kitchen and laundry, for which service they receive, besides board and keeping, regular monthly wages.

We furnish the inmates with hammock and net twine at cost price, and allow them a fair compensation for the finished article when turned in to the state. Many hammocks and nets, however, are sold by the inmates to outside parties, the proceeds of which sales are not returned to the office. A considerable amount is thus realized by them that does not appear in their net earnings herein given.

During the year the buildings have all been thoroughly renovated, the walls of the main building and dormitories being cleaned, pointed and frescoed, and considerable work has been done in beautifying the grounds. A new chicken house has

been built, and a commodious hay barn is being erected. Other minor improvements have been made.

We have about fifteen acres in corn, ten acres in meadow, ten acres in pasture, six acres in potatoes, and three acres in garden; also, eleven hogs, five milch cows, three calves, two horses, about 300 chickens and a few turkeys.

We put up last year about fifteen tons of hay, cribbed 1,000 bushels of corn, and killed and consumed twelve hogs averaging 450 pounds each, from which we rendered lard sufficient for all our needs for a year.

Number of inmates enrolled at beginning of period.....	68
Number admitted during the period.....	23
	—
Whole number admitted since opening of the home.....	91
Number present during the period	59
Number absent with leave.....	4
Number absent without leave	1
	—
Number in attendance at present	54
Less number married living outside	6
Less number single living outside	1
	—
Total	47
Number of men boarded at home	37
Number of women boarded at home	10
	—
Total	47

You will note that there have been twenty-three admissions during the biennial period. There are now on file a number of applications awaiting action by your board.

Your attention has been called to the fact that the mens' ward or east wing is filled to its full capacity, there being three occupants of each room; and, also, that the shop space is so crowded that there is not room for another machine.

If the prime object for the establishment of the home is kept in view, namely, "To instruct the adult blind of the state, who may be admitted, in some suitable trade or avocation in order to enable them to earn their own support or contribute thereto," applicants for admission will be compelled to wait until there is a vacancy, or until more ample accomodations are provided.

If the amendment passed at the extra session of the legislature for the admission of indigent blind of the state is to become effective, the imperative necessity for enlarged accomodations are apparent and provision for the same should be made.

Average number of persons supported at the home for the period.....	52
Total cost of maintaining same.....	\$ 14,821.19
Cost of maintenance per month.....	592.58
Cost of maintaining each inmate per month.....	11.39

Based upon the average number of persons maintained at the Home for the period, the average cost of maintenance per month for each inmate, excluding the edible products of the farm, you will note, is \$11.39. Deducting amount paid for improvements and house furnishings, the actual cost of maintenance per month for the period, for each inmate, is \$10.17.

EXPENSES OF THE HOME, EXCLUDING ALL EXPENDITURES CONNECTED WITH THE OPERATION OF THE FACTORY, FOR THE PERIOD ENDING JUNE 30, 1897.

Groceries and provisions	\$ 6.56 32
Salary and wages, officers and employes	3.57 29
Improvements	67 44
House furnishings	82 25
Miscellaneous	2.21 75
Total	\$14.73 10

The above includes the items for building and improvements, furniture, salaries, wages (medical attendance), washing and miscellaneous expense, in fact, every expense for the maintenance of the Home, separate from the operations of the factory.

Of the thirty-seven persons whose names have been dropped from our rolls, two died at the Home, three were taken to hospital for insane, three were discharged and six married and left the home, while most of the others have gone out from the Home by permission and are now making efforts to maintain themselves at the trades followed here, or in some other honorable way to provide for themselves.

The Home is subject to the same conditions that determine the success or failure of any manufacturing establishment, and one of the most important is the judicious purchase of material. We now use about twelve tons of broom corn per month and we ought to be able when the market is favorable to purchase and store a sufficient quantity to last six months or a year. It is unsafe to store large quantities of broom corn in the basement under the shop.

There has been a marked decrease in the price of manufactured product, but we have been compelled to follow the prices down; and while we have sold more brooms, etc., during this period than the last, the aggregate amount realized from the sales has not increased in the same ratio.

RECOMMENDATIONS.

I would respectfully recommend that you ask of the next legislature a sufficient appropriation to convert the present factory building into a dormitory and to furnish the means for

the erection of a new factory and store room disconnected from the other buildings.

The factory building should be equipped with a small engine, shafting and power seeder. The hand seeder now used does very unsatisfactory and imperfect work. It can be operated only by our strongest men and even then at a disadvantage.

As the number of inmates increases the necessity for making provision for the proper care of our sick is apparent. In case of contagious or lingering disease, the sick should be provided with a suitable room or infirmary where they could be under the exclusive charge of physician and nurse. Prudence would require this to be secluded and separate from others.

Fire escapes should be placed on both wings of the main building connecting with each floor of the wings. Every safeguard should be used and precaution taken to prevent the possible horrors of a fire in a building occupied by the blind.

In this connection I would suggest and recommend that the coal oil lamps now used for lighting the building be replaced with electric lights as soon as you have the means to make the change. Aside from the disagreeable features of heat, smoke, odor and blackened walls arising from the use of coal oil lamps, the property of the state and the lives of the inmates are continually endangered therefrom.

We will need some furniture and carpet for use in the main building and some new bedsteads and bedding for the dormitories.

The contract by which the city supplied the home with free water expired at the beginning of last year, and we are now paying for the water we use at the minimum water rate of 15 cents per 1,000 gallons. This item will amount to about \$100 per annum.

In conclusion I desire to express my sincere thanks to the members of the board for friendly counsel and generous support extended to myself and wife in the performance of our duty as superintendent and matron of the Home, in this the initial year of our service.

CAM. CULBERTSON,
Superintendent.

LIST OF INMATES ENROLLED DURING THE PERIOD ENDING JUNE 30, 1897.

Number	NAME.	AGE.	ADMITTED.	COUNTY.	NATIVITY.	REMARKS.
1	Anderson, Minnie.	26	September 28, 1892.	Sioux	Indiana.	
2	Anderson, Annie.	25	"	Boone	Sweden.	
3	Ashby, W. H.	29	"	Louisa.	Iowa.	
4	"	23	"	Harrison	New York.	
5	"	23	"	Manassas	England.	
6	"	26	"	Benton	Iowa.	
7	"	40	"	Marion	Indiana	Married.
8	"	25	"	Benton	Germany.	
9	"	54	"	Ida	Ohio.	
10	"	46	May 30, 1893.	Polk	Ireland.	
11	"	41	November 10, 1892.	Benton	Iowa.	
12	"	20	December 20, 1894.	Story	Ireland.	
13	H.	22	July 4, 1892.	Marion	Illinois	Readmitted.
14	"	40	October 2, 1895.	Fremont	Iowa.	
15	"	41	December 11, 1895.	Scott	Germany	Feb 14, 1897, insane; returned to Scott Co
16	"	30	May 4, 1897.	Greene	Scotland.	Left the home July 1, 1896.
17	"	41	December 22 1891	Clinton	New York	
18	"	35	"	Adair	Texas.	
19	"	29	"	Clay	New York.	Absent without leave.
20	"	30	"	Madison	New Jersey	
21	"	30	"	Polk	Iowa.	
22	"	29	"	Audubon	Kentucky.	
23	"	45	"	Ringgold	Illinois.	
24	H.	53	"	Scott	Germany	Returned to Scott county.
25	"	45	"	Woodbury	Germany.	
26	"	43	"	Orawford	New Jersey.	
27	"	35	"	Washington	Iowa	Left the home August 18, 1893.
28	"	35	"	Polk	Wisconsin.	
29	"	35	"	Page	New York.	
30	"	33	"	Montgomery	Germany	Absent.
31	"	44	"	Clayton	Germany.	
32	"	45	"	Polk	Ireland.	
33	"	29	"	Muscatine	Pennsylvania.	
34	"	24	"	Warren	Iowa.	
35	"	23	"	Jasper	Scotland.	
36	"	34	"	Keokuk	Iowa.	
37	"	41	"	Union	Pennsylvania.	
38	"	35	"	Benton	Iowa	
39	"	30	"	Marion	Indiana.	Married.
40	"	39	"	Grundy	Indiana.	

41	O'Bourke, Mary.....	25	December 20, 1894. . .	Jasper.....	Wisconsin	January 12, 1897, found insane; taken to Married. [Mt. Pleasant hospital.
42	Postma, B. A.....	26	January 12, 1895 . . .	Sioux.....	Iowa.....	
43	Quilkin, Pat.....	27	January 7, 1895 . . .	Wapello.....	Ireland.....	
44	Ramsey, H. E.....	24	April 5, 1895.....	Tama.....	Iowa.....	Married.
45	Roberts, James W.....	30	May 2, 1895.....	Keokuk.....	England.....	Married.
46	Schaefer, Louis.....	47	January 11, 1895.....	Jefferson.....	Germany.....	
47	".....	38	June 30, 1895.....	Carroll.....	Illinois.....	Left the home Ju'y 24, 1896.
48	".....	39	August 12, 1895.....	Marion.....	Illinois.....	Married.
49	".....	21	".....	Hardin.....	Iowa.....	
50	".....	21	".....	Lee.....	Iowa.....	
51	".....	23	".....	Polk.....	Iowa.....	Absent.
52	".....	30	".....	Humboldt.....	Wisconsin.....	
53	".....	27	".....	Crawford.....	Austria.....	
54	".....	23	".....	Linn.....	Iowa.....	
55	".....	35	".....	Marion.....	New Brunswick.....	
56	Tosh, Harry.....	39	".....	Marshall.....	Iowa.....	Married.
57	Workman, John.....	29	".....	Jefferson.....	Ohio.....	
58	Wood, Eva.....	25	".....	Clay.....	Missouri.....	
59	Weaver, Aggie.....	26	".....	Linn.....	Iowa.....	
60	Wilson, Robert.....	37	".....	Pottawattamie.....	Kentucky.....	
61	".....	31	".....	Greene.....	Pennsylvania.....	

FINANCIAL STATEMENT.

Total warrants issued on salary and subsistence fund.....	\$ 12,339 73
Total warrants issued on manufacturing fund	23,401.33
Total warrants issued on contingent fund	2573 22
Total warrants issued on machinery fund.....	119 83
Total warrants issued on farm and grounds.....	124 40
Total.....	\$ 38,778 51

RECORD OF ARTICLES SOLD AND AMOUNT OF SALES FOR THE
BIENNIAL PERIOD ENDING JUNE 30, 1897.

MONTH.	Number dozen b.ooms.	Number dozen whisks.	Number ham- m.cks—sin- gle.	Number nets— single.	Amount of sales.	Discounts and freight's.
1895—						
July.....	516 1-6	8	.....	1	\$ 1,121.80	\$ 34.63
August	481 1-2	15	3	..	1,183 63	39 44
September.....	467 1-2	17 1-2	.....	..	968.78	23 63
October.....	737 1-6	26	.....	..	1,566.04	38 43
November.....	477	27	.....	..	930 22	28 46
December	336	26 1-2	.....	..	693.11	46 73
1896—						
January	846 1-2	28 1-2	.....	..	694 40	69 26
February.....	307 1-2	66 1-2	6	..	657 44	31.11
March.....	369 1-2	84 2-3	55	12	744.42	21 21
April.....	412 1-4	224	41	1	972 39	48 90
May.....	226	63 3-4	35	72	704.58	41 65
June	369 1-2	171	16	2	973.07	16 17
Total for year ending June 30, 1896	5,104 1-2	768 5-12	156	88	\$ 11,171.00	\$ 496.22
1896—						
July.....	536 1-2	215	21	14	943.48	42.99
August	403 1-4	223 2-3	1	...	635 00	18 13
September...	741 3-4	315 3-4	...	.....	1,125.20	35 26
October.....	662 1-4	158 1-2	...	.....	1,010.48	32 14
November.....	719	265	...	.....	1,111.94	26.64
December	547 1-2	329 3-4	2	...	941.91	103.11
1897—						
January.....	598 1-3	263 1-2	6	..	1,060 30	41.99
February.....	412	309 1-2	.....	..	737 48	29 76
March.....	544 1-2	512 1-2	.....	..	975.34	72 49
April.....	597 2-3	351 2-3	14	...	943 93	61.05
May.....	797	831	63	...	1,155.86	20 50
June	905	607	15	..	1,404.76	20.81
Total for year ending June 30, 1897	7,481 3-4	3,942 1-2	122	14	\$ 12,034.63	\$ 685.65
Total	12,584 1-4	4,711	278	102	\$ 23,205.63	\$1,181 87

SUMMARY OF ARTICLES MANUFACTURED AND SOLD DURING
THE BIENNIAL PERIOD.
MANUFACTURED.

Brooms.....	12,105	1-2 dozen.
Whisks	4,841	dozen.
Single hammocks.....	283	dozen.
Single nets.....	182	dozen.
SOLD.		
Brooms.....	12,589	1-4 dozen.
Whisks	4,711	dozen.
Single hammocks.....	278	dozen.
Single nets.....	102	dozen.
Total amount of sales.....	\$23,205.68	
Less discount and freight.....	1,181.97	
Net sales.....	\$22,023.71	

GOODS MANUFACTURED SINCE HOME OPENED, JANUARY 1,
1892.

DATE.	Number dozen brooms.	Number dozen whisks.	Number ham- mocks—sin- gle.	Number nets— single.
January 1, 1892, to June 30, 1893.....	6,449	182½	42	75
June 30, 1893, to June 30, 1896.....	8,411½	446	746	123
June 30, 1896, to June 30, 1897.....	12,105½	4,841½	283	182
Total made.....	26,966	5,470½	1,071	380

SUMMARY.

AMOUNT OF SALES FOR BIENNIAL PERIOD ENDING JUNE 30, 1897.

Brooms, dozen	12,589½
Whisks, dozen.....	4,711
Hammocks, single	278
Nets, single. ...	102
Total amount of sales.....	\$ 23,205.68
Less discounts and freights.....	1,181.97
Net sales... ..	\$ 22,023 71.
Total collections from sales for the period.....	20,239 14
Total amount deposited with treasurer.....	20,239.14

MANUFACTURED STOCK ON HAND JUNE 30, 1897.

18 dozen No. 1 brooms at \$2.50.....	\$ 32.50
26 dozen No. 3 brooms at \$2.....	53 00
19 dozen Little Gem brooms at \$2.....	38.00
93 dozen No. 4 brooms at \$1.50.....	139.50
34 dozen Racket brooms at \$1.....	34.00
4½ dozen No. 7 brooms at \$2.50.....	11.25
5 dozen No. 8 brooms at \$2.75.....	13.75
2 dozen No. 9 brooms at \$3.....	6.00
14 dozen Little Gems (old stock) at \$1.75.....	24.50
2 dozen No. 9 brooms (old stock) at \$2.40	4 80
Total	\$ 356.80

WHISKS AND TOYS.

6½ dozen No. 10 toys at 75 cents.....	\$ 4.87½
23½ dozen No. 11 whisks at 40 cents.....	9.40
12½ dozen No. 12 whisks at 50 cents.....	6.25
6½ dozen No. 13 whisks at 65 cents.....	4.22½
5 dozen No. 14 whisks at 70 cents.....	3.50
6 dozen No. 15 whisks at 75 cents.....	4.50
16 dozen No. 16 whisks at \$1....	16.00
Total.....	\$ 48.75

HAMMOCKS AND NETS.

28 8-foot hammocks at 80 cents.....	\$ 22.40
1 9-foot hammock at 90 cents.....	.90
72 10-foot hammocks at \$1.....	72.00
3 11-foot hammocks at \$1.10.....	2.96
17 12-foot hammocks at \$1.25.....	21.25
4 13-foot hammocks at \$1.35.....	5.40
12 14-foot hammocks at \$1.50.....	18.00
Total.....	\$ 142.15

17 single nets (white) at 75 cents.....	12.75
2 single nets (colored) at \$1.....	2.00

Total..... **\$ 14.75**

Total manufactured stock on hand..... **\$21.95**

INVENTORY OF UNMANUFACTURED STOCK AND MATERIAL ON HAND JUNE 30, 1897.

5,675 pounds broom corn at 3 cents.....	\$ 170.25
5,714 pounds broom corn at 2½ cents.....	142.85
716 pounds broom corn at 4½ cents (dwarf).....	32.22
2,700 pounds broom corn, Beem.....	54.00
2,360 pounds broom corn, medium.....	59.00
22,200 broom handles at \$9 75... ..	213.95
1,500 broom handles, barn, at \$11.....	16.50
1,200 broom handles, toy, at \$8.....	9.60
450 broom handles, painted, at \$16.....	7.20
42 pounds whisk twine, sewing, 42½ cents.....	17.85
32 pounds whisk twine, bunching, at 14 cents.....	4.48
42 pounds broom twine, bunching, at 16 cents.....	7.12
90 pounds broom twine, sewing, pink, at 33 cents.....	29.70
72 pounds broom twine, sewing, green, at 25 cents.....	18.00
900 pounds wire at \$3.75.....	33.75
6 pounds staples at 8 cents.....	.48
37 pounds wire broom nails at 8 cents.....	2.96
12 yards velvet at 24 cents.....	2.88
200 pounds brimstone at 2½ cents.....	5.00
3 gross broom braces.....	.12
48 gross tin locks, Daisy, at 40 cents.....	15.36
7 gross tin locks with rings at 55 cents.....	3.85
125 pounds paper broom sacks at \$22 per thousand.....	25.95
500 paper broom bags at \$20.....	10.00
19 (5) scrapers and (14) pounders at 75 cents.....	14.25
36 (17) broad knives and (19) narrow knives at 40 and 50 cents.....	16.10
24 needles, 12 brooms, 12 whisks, at 50 cents....	12.00
12 pairs handcuffs at 35 cents.....	4.20
25 pairs cuff irons at 10 cents.....	2.50
½ box broom corn dye.....	.70
2,920 brush handles, ebony, at \$3 per thousand....	8.76
1,000 brush rods at \$7.....	7.00
18 gross brush caps, plush, at 20 cents.....	3.60
200 stretchers at 8 cents.....	1.60
Total	\$ 1,064.71

**SUMMARY OF FACTORY ACCOUNT FOR THE BIENNIAL PERIOD ENDING
JUNE 30, 1897.**

DEBIT.

1895.

June 30.	Balance on hand.....	\$ 1,564.46
	Bills receivable.....	4,893.56
	Manufactured stock on hand.....	1,575.05
	Unmanufactured stock on hand....	923.48
	Received from state treasurer.....	4,625.00
	Collections from sales	20,239.14
	Total.....	\$ 33,819.69

CREDIT.

1897.

June 30.	Manufactured stock on hand.....	\$ 561.95
	Unmanufactured stock on hand.....	1,064.71
	Bills receivable.....	5,131.93
	Paid inmates' earnings.....	3,816.95
	Paid for material for period.....	11,409.94
	Paid for foreman and salesmen.....	5,085.78
	Paid freights and all other expenses.....	1,467.15
	Balance on hand.....	3,595.73
	Total	\$ 34,644.19
Balance		\$ 824.50

